

2013



USA Swimming  
Officials Committee

Online Test  
Subcommittee



# ONLINE TEST ADMINISTRATOR USER MANUAL VERSION 3.0

This document is intended to be used by members of the Online Test Subcommittee while performing their duties of maintaining and updating the USA Swimming Online Tests

# Online Test Administrator User Manual Version 3.0

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## 1 Glossary

**Active** – The status of a Master Question, a Test, or an assigned question within a Test. When the status is set to “Active”, the question or test is available to be used by the general public online.

**Always Used Questions** – Question that will always be included in a test when the system randomly generates test questions for the test.

**Category** – The grouping of Master Questions.

**Checkbox** – A small rectangular box to be used to select a certain action. A check mark will appear inside the box when the user clicks on the box, indicating the item is “selected.”

**Drop-down Menu** – A rectangular selection box which opens up to a larger rectangular box that shows multiple choices that one can select from.

**Master Questions** – A set of questions in the system database that can be used by any of the Online Tests.

**Radio Button** – A small circle used for selecting an item. When it is clicked, the circle will be filled indicating the item has been selected.

**Randomize Answers** – The multiple choice answers that are generated by the system in random order.

**Tabs** – Rectangular tabs on top of a display window that allow the user to bring another window to the front from behind by clicking on a particular tab.

**Test Editors** – Members of the Online Test Committee responsible for the maintenance of the Online Tests.

**Test Sections** – The grouping of questions within a test; usually by the reference section number of the Rulebook.

**Test Takers** – Officials or Coaches taking the Online Tests for certification or recertification purposes.

**Test Type** – The type of test or the name of the test such as Referee Certification Test, Foundation of Coaching Test, etc.

## 2 Overview

The Online Test Administrator User Manual is intended to be a documentation of current practices, rules, and procedures used by the Editors of the Online Test Committee. It is designed to help the new Editors learn the Online Test editing processes while providing detailed information to assist the experienced Editors to understand the Online Test system thoroughly in order to master the editing processes. It is assumed that the reader is an experienced user of web browser software.

### 2.1 Introduction

#### 2.1.1 Background of Online Test

The original version of the USA Swimming Online Tests was first developed in 2005 with the help of some technically savvy Officials who had developed and launched a limited version of Officials online tests at their LSC website back in 2003. The system has evolved through the years with each generation of software upgrade bringing more capabilities while making it more efficient for the Online Test Committee to maintain the tests.

With the Online Test database now linked to the Officials Tracking System (OTS) which was developed and rolled out in 2007, the two systems, along with SWIMS, has made the job of the LSC Officials Chair much easier than back in the days when the Officials Certification Tests had to be completed with paper and pencil during the Officials Clinics.

#### 2.1.2 About this User Manual

This User Manual is designed to be easy to follow by providing many actual screenshots. It also provides much useful information to help the user understand the reasons behind certain processes. A separate “Quick Start User Guide” is available for those who would like to go over the process quickly to get a quick familiarization of the processes or for those who would like a short refresher course of the processes. See the “Related Document” under Section 2.1.3 below.

#### 2.1.3 Related Documents

1. Online Test Editor Quick Start Guide
2. Online Test Annual Update Guide
3. How to Generate Tests With All Active Questions

### 2.2 The Online Test Architecture

The Online Test System consists of a set of Master Questions and a set of Officials and Coaches certification tests. The current certification tests are listed in Appendix 1. The tests with the status of “**Active**” are accessible to Officials and Coaches on the USA Swimming web site. The Master Questions are a collection of test questions used by these tests. The same Master Question may be used by multiple tests. In fact, this is the main reason that the Master Question

architecture was created. For example, a specific Stroke & Turn test question may be used in the “Certification – Stroke & Turn/Timer” Test, the “Re-Certification – Stroke & Turn/Timer” Test, and the “Certification – Referee” Test. Each of these tests does not contain a copy of the question. Instead, the tests “call up” the particular Master Question by its Master Question ID. Therefore, whenever there is a rule change that requires a test question update, one only has to update the master question and all the affected tests will be updated automatically.

## 2.3 The Online Test Committee

The Online Test Committee is a subcommittee of the USA Swimming Officials Committee. Its sole purpose is to maintain the Online Certification and Recertification Tests. The committee consists of a Committee Chair, two or three Senior Editors, and a number of Test Editors. The Committee Chair leads the group and coordinates all activities. Each Test Editor is assigned to be responsible for one or more “Categories” of Master Questions (see Section 4.0) and one or more Certification and Recertification tests (see Section 5.0). The Senior Editors are responsible for reviewing and approving all changes or additions to the tests submitted by the Test Editors and interfacing with USA Swimming Rules & Regulations Chair to obtain final approval of new test questions.

## 2.4 The Editors Guidelines

Since the Master Questions and the Certification Tests are generated and maintained by more than one person, the Online Test Subcommittee has established the following “Editing Guidelines” to assure consistency:

1. Question and/or reference changes or modification must be agreed to by the respective assigned Test Editor and the assigned Senior Editors or the change will not be made.
  - a. Modifications/changes impacting substance of the question must go to the National Rules and Regulations Chair for approval before the question is modified.
  - b. Modifications/changes impacting only form or grammar or clarity may be approved by the assigned Senior Editor(s) and respective assigned Editor.
  - c. Notice will be given to the Senior Editors by the respective Editor requesting input and buy-in on changes with a deadline for responding.
2. Each Editor will be assigned a series of Tests and a Master Question Category for which they will be held accountable to conduct timely review of questions, answers, references and propose modifications using these rules of engagement and guidelines.
  - a. No changes, modifications or updates are valid unless these guidelines are followed. Each Editor is responsible for timely communications with the rest of the team and is accountable to NOT MAKE CHANGES until the Senior Editors have been heard and both are aligned as to the changes to be made.
3. No new tests shall be set up without input from the entire Editor Team as to the need and buy-in by the entire Editor Team. New tests may ONLY BE SET UP after acceptance by the Editor Team and SHALL ONLY BE SET UP by the Online Test Team Lead.
4. Each question shall be stated using exact wording as it is written in the Rulebook. References will only be written using wording that comes directly from the Rulebook.

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5. Format all questions and references exactly as the formatting in the Rulebook.
6. Stay gender neutral and remove all he/she, his or her UNLESS it is stated in the Rulebook.
7. All questions and references are to begin with capitalizing the first word of the question and answer or reference.
8. All questions, answers, and references shall be written to ALLOW randomization as a standard test requirement.
9. All Editors SHALL ONLY USE Master Questions that have been reviewed by the Senior Editors as outlined in Guidelines 2 and 3 above and ONLY WHEN APPROVED for use by the Chair of the Rules and Regulation Committee.
10. All questions will end with a question mark (?). All reference answers will begin by capitalizing the first word of each answer and end with a period.
11. Editors will not write TRUE and FALSE questions.
12. All questions and answers with numbers in them will NOT be spelled out but will use the number followed by a hyphen with no spaces. For example, 500-yard, 1500-meter, 5-kilometer.
13. All reference questions will have the following format:
  - a. There is one (1) correct reference...
  - b. There are two (2) correct references...
  - c. There are three (3) correct references...
14. All Officials Initial Certification Tests will:
  - a. Be 50 2-part questions maximum.
  - b. Requires 80% to pass.
15. All Officials Recertification Tests (that are NOT combined) will:
  - a. Be 25 2-part questions maximum.
  - b. Require 80% to pass.
16. All Officials Recertification Tests (that ARE combined) will:
  - a. Be 30 minimum to 50 maximum 2-part questions.
  - b. Require 80% to pass.
17. A standard Naming format for consistency of input will be communicated and followed by each Test Editor.

## 2.5 The Annual Online Test Update Process

While the Online Test Committee remains active throughout the year to maintain the Online Tests and takes action responding to critical errors discovered or simply answering questions from Officials having difficulties working with the Online Tests, the bulk of the effort involve the annual updating of the Online Tests due to changes to the USA Swimming Rulebook. Although the new Rulebook is usually available in January each year, any changes to the Technical Rules typically become effective on May 1<sup>st</sup> of each year; this has become the deadline for the updated tests to be available online each year.

Depending on the extent of the changes required on the tests, it will usually take between three to four weeks to make the changes to the online tests and perform verification testing to make sure no errors are introduced while making the updates. This usually takes place during the last



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three weeks in April when the Online Test is shutdown for the yearly update. To make this “shutdown” period as short as possible, a majority of the preparation work will be performed by the Editor Team between January and April each year.

There are two major tasks to be performed during February each year:

1. Each Editor reviews the new Rulebook against his or her assigned Master Questions and Tests to determine if new questions are needed and if any existing questions are affected by the Rulebook changes.
2. An Editor performs an analysis of all the tests taken during the past year to determine if any question may require update due to a high rate of “misses”. A question should be reviewed if more than 25% of the Officials missed the question over the past year. See Section 6.3 “Annual Question Analysis Process”.

During March and April, the Editors will update their responsible Master Questions off-line and submit the suggested changes to the Senior Editors for review and approval. The Senior Editor will submit finalized “new” questions to the Chair of the Rules and Regulations Committee for approval during this period. This is an iterative process that sometimes takes three to four attempts before a set of updates to a Master Question Category is finalized. The goal is to finalize all the updates on or before the first week of April so that the Online Test can be taken off-line for update by the second week of April.

Once the Online Test is taken off-line, the Editors will update their responsible Category of Master Questions in the Online Database. As soon as the Master Questions are updated, the Editors will update their responsible Certification and Recertification Tests. Finally, all affected tests will be run and the test results will be reviewed by the Editors and the Senior Editors to assure correctness. When all tests are verified to be “good to go”, the Online Test Committee Chair will reactivate the tests and make them available online to the public. This cycle will repeat the following January.

## 3 Accessing the Admin for Online Test Web Page

To be able to access the “**Admin for Online Test**” web pages, you will need to have administrative privilege on your USA Swimming website account. If you are a member Editor of the Online Test Subcommittee but do not have the administrative privilege, please contact Mary Illich (Member Services Program Manager) at [millich@usaswimming.org](mailto:millich@usaswimming.org).

### 3.1 System Requirements

Web Browsers: Internet Explorer (PC)  
Firefox, Chrome (PC or Mac)  
Safari (Mac)

Others: Adobe Acrobat Reader

## 3.2 Administrator Login

To log into the Online Test Site with Administrator privileges that would allow you to make changes to the tests, you will need to access the site via the following URL:

<http://www.usaswimming.org/adminlogin/>

The following screen, as shown in Figure 1 will appear.

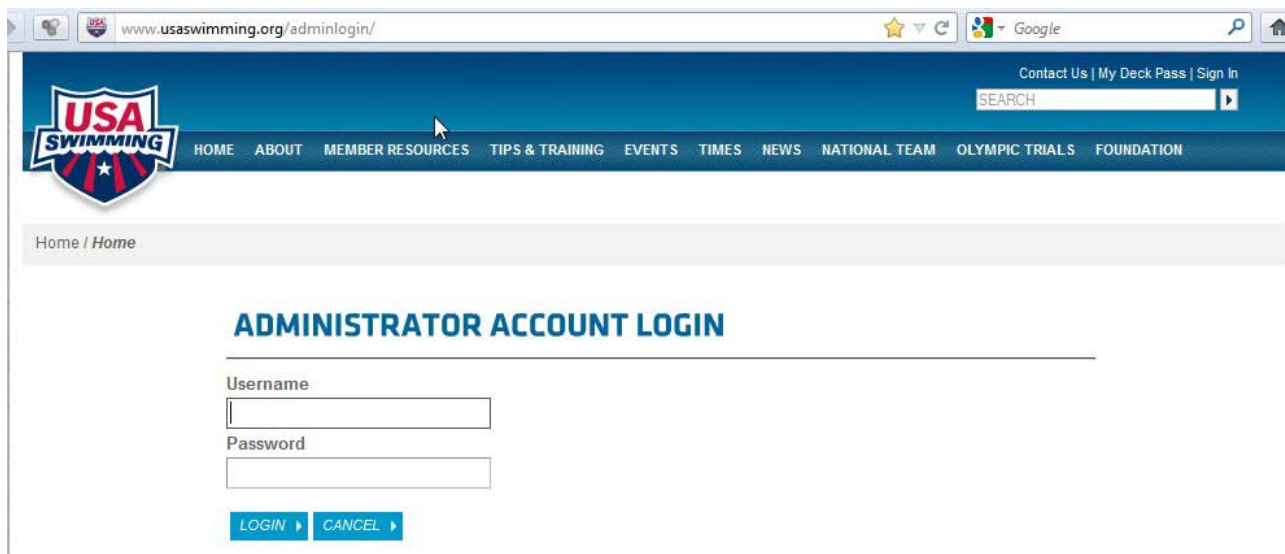


Figure 1 – Admin Login Screen

Enter your username and password. You will see the normal USA Swimming Main Page on your screen if you have been granted administrative privilege to access the site.

## 3.3 Getting to the Admin for Online Test Main Page

On the USA Swimming Main Page (Figure 2), move your mouse pointer over the “**MEMBER RESOURCES**” link on the menu bar to see a drop-down menu. Slide the mouse pointer down to find “**Admin for Online Tests**” under the “**OFFICIALS**” heading as shown in Figure 3. Click on it and you will see the “**Admin for Online Tests**” main page as shown in Figure 5.



Figure 2 – USA Swimming Web Site Main Screen

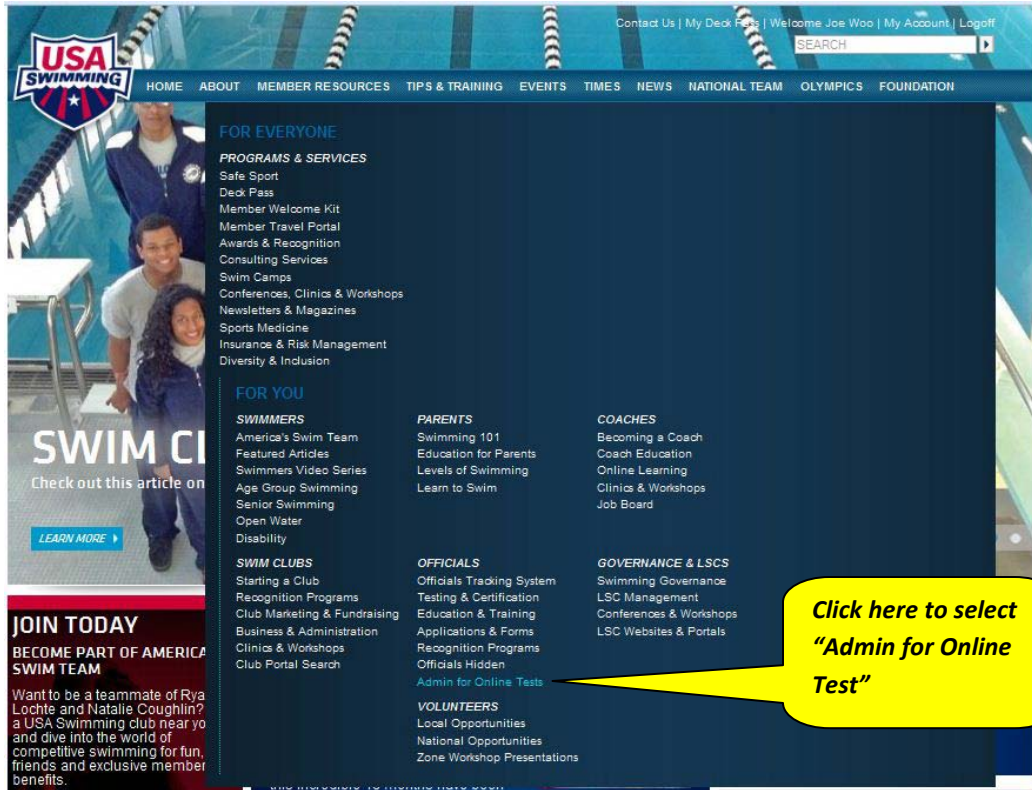


Figure 3 – Select “Admin for Online Test”

## 3.4 Log Off

When you are done with your session, do not forget to log off by clicking on the “**Logoff**” link on the upper right hand corner of the screen as shown in Figure 4.

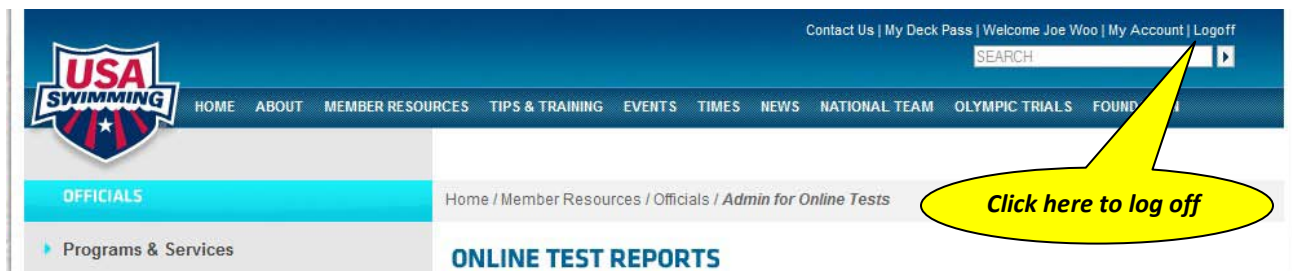


Figure 4 – Log off USA Swimming Web Site

## 4 Master Questions

The screenshot shows the 'OFFICIALS' section of the system. The left sidebar contains a navigation menu with categories like Programs & Services, Swimmers, Parents, Coaches, Swim Clubs, Officials, and Volunteers. The main content area is titled 'OFFICIALS' and includes links for 'ONLINE TEST REPORTS', 'AUTHORIZATION FORM', and 'ONLINE TEST REPORT-NTL ADMIN'. Below these links is a table with columns for Test Type, # Answers To Pass, # Sections, # Questions, # Times Taken, Status, Last Modified, and Options.

Test Type	# Answers To Pass	# Sections	# Questions	# Times Taken	Status	Last Modified	Options
Certification - Administrative	80	31	99	2742	Active	5/8/2012	
Certification - Clerk of Course	60	7	78	4152	Active	4/30/2012	
Certification - Open Water Judge	64	10	66	38	Active	5/14/2012	
Certification - Open Water Referee	64	10	82	37	Active	5/2/2012	
Certification - Referee	80	46	148	3454	Active	5/4/2012	
Certification - Starter	64	20	75	6453	Active	5/3/2012	
Certification - Stroke & Turn/Timer	96	22	76	11275	Active	5/8/2012	

Figure 5 – Online Test Main Screen

As mentioned in the Online Test Architecture section, all the certification tests are created by assigning test questions from a collection of master questions. A test cannot modify the contents of a master question but it can set certain characteristics of a master question to fit its needs. For example, most technical rules master questions are created as two-part questions where Part 1 is the multiple choice question itself and Part 2 requires the test taker to identify the correct reference paragraph from the Rulebook. For certification tests that do not require the test taker to identify the correct references, the test can be set to use “Part 1 Only” as an option.

### 4.1 The Components of a Master Question

#### 4.1.1 Master Question Categories

Because of the large number of questions in the Master Questions database, it is necessary to divide the master questions into categories to facilitate searching as well as assigning update responsibilities to the Online Test Committee members. The current list of Master Question Categories is shown in Appendix 2 at the end of this document. Section 4.2 details the steps to update a Master Question Category or to add a new Category.

#### 4.1.2 Master Question ID



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For configuration control purposes, each master question is assigned a Master Question ID. The Master Question ID is a numerical number automatically assigned by the system when a master question is created. The format of the Master Question ID is two sets of numbers separated by a period where the number after the period is the revision number. The software system automatically advances the revision number each time the master question is modified and saved. The system also records the change information as well as the author's initials each time a modification is made. The Master Question ID is displayed on the right of every test question as shown in Figure 6. This allows an official to inquire about a particular question of a test. The test question number (first column) may not always point to the same test question as the test questions are randomly generated from a pool of master questions available for a particular test.

Question #	Question / Answers	Master Question ID.Version
<b>Test Section: Rules&amp;Regs:101.2-Breaststroke</b>		
1	<p>In the breaststroke: How shall the hands be pushed forward together from the breast?</p> <p><input type="checkbox"/> A. They shall be on or under the water.</p> <p><input type="checkbox"/> B. They shall be under the water.</p> <p><input type="checkbox"/> C. They may be on, under, or over the water.</p> <p><input type="checkbox"/> D. They shall be on the surface of the water.</p> <p>There is one (1) correct reference for this question.</p> <p><input type="checkbox"/> A. 101.2.4</p> <p><input type="checkbox"/> B. 101.2.2</p> <p><input type="checkbox"/> C. 101.2.3</p> <p><input type="checkbox"/> D. 101.2.1</p>	378.5
2	<p>In the breaststroke: When is the swimmer permitted to bring the hands back beyond the hip line in the stroke?</p> <p><input type="checkbox"/> A. When the athlete is ten and under and given permission to do so.</p> <p><input type="checkbox"/> B. During the first stroke after the start and each turn.</p> <p><input type="checkbox"/> C. Anytime during the stroke cycle.</p> <p><input type="checkbox"/> D. Just before each turn and finish.</p> <p>There is one (1) correct reference for this question.</p> <p><input type="checkbox"/> A. 101.2.1</p> <p><input type="checkbox"/> B. 101.2.2</p> <p><input type="checkbox"/> C. 101.2.4</p> <p><input type="checkbox"/> D. 101.2.3</p>	380.7



Figure 6 – Master Question ID as displayed on the Certification Test

### 4.1.3 Master Question Status

A master question may be “**Active**” or “**Inactive**”. “**Active**” master questions can be used by any test. A master question may be set to “**Inactive**” for a variety of reasons. It may be set to “**Inactive**” because the question is no longer valid due to rule changes or some other reasons. We cannot delete such question since it has been used previously and may be required when doing an analysis of the previous tests or when a historical search is necessary. Therefore, the question will need to be put into an “**Inactive**” mode. It will remain in the database and can be searched by status (“**Active**” or “**Inactive**”) or directly by the Master Question ID. Obviously, when a test needs to add new questions, the author will search for the “**Active**” master questions to find the ones he or she would like to add. When a master question is set to “**Inactive**”, any test that is currently using this question will not be able to use it and must find another



replacement question to keep the same number of questions in a test. Therefore, it is imperative for the Online Test Committee member who is assigned a master question that needs to be set to “**Inactive**” to notify all the test editors who are using such question in their tests. Figure 7 shows the “**Active**” checkbox used to set a master question to be “**Active**”.

## 4.1.4 Part-1 and 2-Part Master Questions

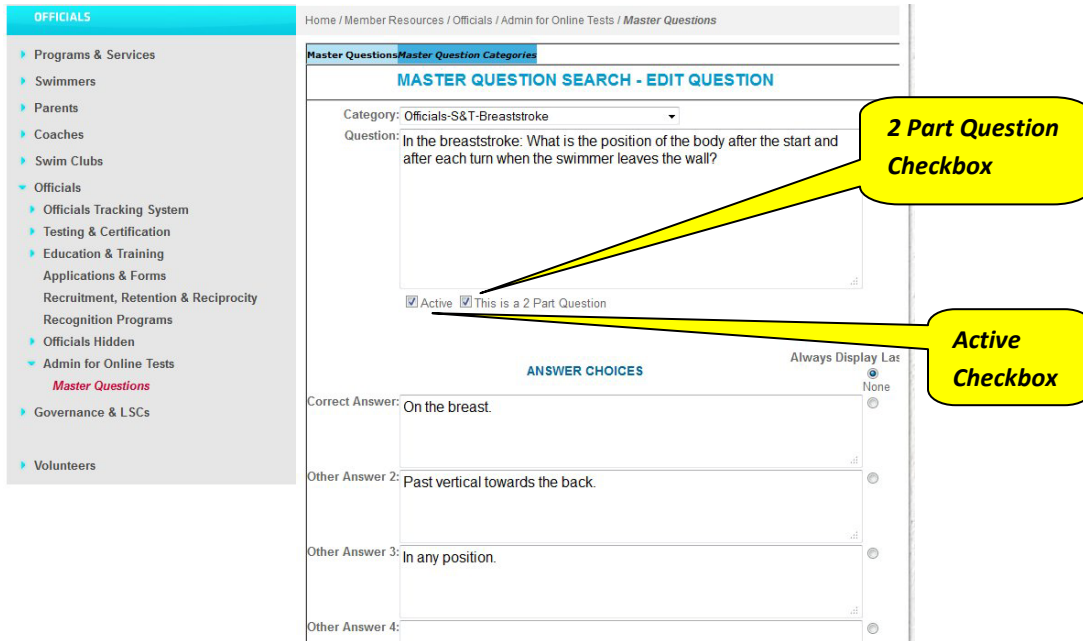


Figure 7 – Master Question setup checkboxes

Next to the “**Active**” checkbox is the “**This is a 2 Part Question**” checkbox. This checkbox is used to setup a master question to include a Part 2 multiple choice question. Figure 8 shows a typical Part 2 question that will appear when the “**This is a 2 Part Question**” checkbox is checked.

The screenshot shows a web interface titled "QUESTION PART 2". At the top, there is a question text box containing the text: "There is one (1) correct reference for this question." Below the question, there are five answer options, each in a separate text box. The first option is "101.2.2" and has a "Correct" checkbox checked. The other four options are "101.2.3", "101.2.4", "101.2.1", and an empty box. At the bottom left of the interface, there are "Save" and "Cancel" buttons.

Figure 8 – Master Question Part 2

#### 4.1.5 Feedback

Between Part 1 and Part 2, there is a text box called “**Feedback**”. Figure 9 shows a typical entry to the Feedback text box. The purpose of the Feedback was to provide hints to the test taker to lead them to the correct answer or reference. With the growth and evolutions of the Online Test over the years, the Feedback function is no longer in use. Since the test answer sheet now shows the correct answers, the hints do not serve any purpose.

The screenshot shows a text box labeled "Feedback:". The text inside the box reads: "Section 101.2.2 states how the body position shall remain after the start and after each turn, when the swimmer leaves the wall." There is a small ".di" icon in the bottom right corner of the text box.

Figure 9 – Feedback Text Box

#### 4.1.6 Master Question Revision Records

As mentioned previously, the system maintains a revision record of each master question. When you search for a particular master question, the search results will list each master

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question that meets the search criteria with the master question ID and revision number indicated in the first column of the search results table as shown in Figure 10. In this case, Master Question #377 has been revised 9 times as indicated by the ID 377.9.

Master Questions
Master Question Categories

## MASTER QUESTION SEARCH

Add Test Master Question

Master Question ID:

Test Type: Certification - Stroke & Turn/Timer

Category: --All--

Active?:  No  Yes

Question:

Sort By: Master Question ID Then By:

SEARCH RESULTS: 75 QUESTIONS FOUND

ID.Rev	Category	Question	Status	Tests Used in	Options
226.19	Officials-Disability Swimming	Which modifications may be used by a swimmer with a disability?	Active		
377.9	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?	Active		
378.7	Officials-S&T-Breaststroke	In the breaststroke: How shall the hands be pushed forward together from the breast?	Active		
380.8	Officials-S&T-Breaststroke	In the breaststroke: When shall the swimmer be permitted to bring the hands back beyond the hip line in the stroke?	Active		

**Figure 10 – Master Question Search Results**

When you “click” on the ID “377.9” in row 2, you will see the complete revision record of Master Question 377 as shown in Figure 11. Each revision contains a detailed description of the changes, the person who has made the changes, the date the changes were made, along with the revision number. These change records are generated automatically by the system whenever an administrator opens up the master question to edit (by clicking the “edit pencil” on the right of the master question in Figure 10) and then exit the question by clicking the “Save” link at the bottom below Part 2 as shown in Figure 8. It is important to use the “Cancel” link to exit the master question **EDIT** screen if no modifications have been made to the question (such as in cases where one would like to review the question using the **Edit** mode). If there was no modification made but the editor exits the **EDIT** mode using the “Save” link, a new revision will be created with blank description as shown in Revision 2, 6, and 8 in Figure 11.

Master Questions <b>Master Question Categories</b>			
MASTER QUESTION HISTORY - QUESTION ID: 377			
Description	Modified by	Revision	Date
Changed Answer2 Text from "Past vertical towards the breast." to "Past vertical towards the back."	Jones	9	7/2/2009
Changed Study Note Text from "Section 101.2 sets the limits on the position of the body and the relative position of the arms as the swimmer begins the first arm pull in breaststroke." to "Section 101.2.2 states how the body position shall remain after the start and after each turn, when the swimmer leaves the wall."	Jones	8	7/2/2009
Changed Question Text from "In the breaststroke: From the beginning of the first arm stroke after the start and after each turn, in what position shall the body be kept?" to "In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?"	swimjim1	7	5/5/2009
	Jones	6	4/14/2008
Changed Part2 Question Text from "There is one correct reference for this question." to "There is one (1) correct reference for this question."	jvhmbh@juno.com	5	4/14/2008
Changed Study Note Text from "Section 101.1 sets the limits on the position of the body and the relative position of the arms as the swimmer begins the first arm pull in breaststroke." to "Section 101.2 sets the limits on the position of the body and the relative position of the arms as the swimmer begins the first arm pull in breaststroke."	jvhmbh@juno.com	4	5/3/2007
Changed Question Category from "Undefined" to "Officials-S&T-Breaststroke".	jvhmbh@juno.com	3	5/2/2007
	jvhmbh@juno.com	2	4/30/2007
Changed Part2 Question Text from "There is one reference for this question.  The reference you are looking for is found in the Part-One of the Technical Rules, under the Breaststroke, 101.1. It sets the limits on the position of the body and the relative position of the arms as the swimmer begins the first pull. Which reference covers these rules?" to "There is one correct reference for this question."  Changed Part2 Answer1 Text from "101.1.2" to "101.2.2". Changed Part2 Answer2 Text from "101.1.3" to "101.2.3". Changed Part2 Answer3 Text from "101.1.4" to "101.2.4". Changed Part2 Answer4 Text from "101.1.1" to "101.2.1".	jvhmbh@juno.com	1	4/30/2007
Question created during master question project data migration.	Master Question Migration	0	12/13/2006

[Back to Questions](#)

**Figure 11 – Master Question Revision Records**

## 4.2 Adding or Updating Categories

To work with the Master Questions, click on the “*Master Questions*” link under the “**OFFICIALS**” menu on the left of the main screen. A **Master Question** screen will show up as shown in Figure 12. On top of the **Master Question** main screen are two tabs: **Master Questions** and **Master Question Categories**. The “active” tab is shown in light blue color. The tab behind the “active” tab is shown in dark blue color with the title in *italic*. Figure 12 shows that you are currently in the “**Master Questions Search**” screen. To go to the **Master Question Categories** screen, click on the “**Master Question Categories**” tab on top. Figure 13 will be displayed.

Master Questions Master Question Categories

## MASTER QUESTION SEARCH [Add Test Master Question](#)

Master Question ID:

Test Type:

Category:

Active?:  No  Yes

Question:

Sort By:  Then By:

**SEARCH RESULTS: 75 QUESTIONS FOUND**

ID.Rev	Category	Question	Status	Tests Used in	Options
226.19	Officials-Disability Swimming	Which modifications may be used by a swimmer with a disability?	Active		
377.9	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?	Active		

Figure 12 – Master Question Search Tab

Master Questions Master Question Categories

## MASTER QUESTION CATEGORIES [Add Category](#)

Category	Options
*** DO NOT USE ***	
Coach-Dry	
Coach-Evaluation	
Coach-Growth and Development	
Coach-Organization and Administration	
Coach-Philosophy and Ethics	
Coach-Physical Conditioning	
Coach-Skills and Mechanics	
Coach-Teaching and Communication	
Coach-Wet	
Officials-Admin Ref	
Officials-Clerk	
Officials-Disability Swimming	
Officials-Master Swimming	
Officials-Referee	
Officials-S&T-Backstroke	
Officials-S&T-Breaststroke	

**Click here to add a new category**

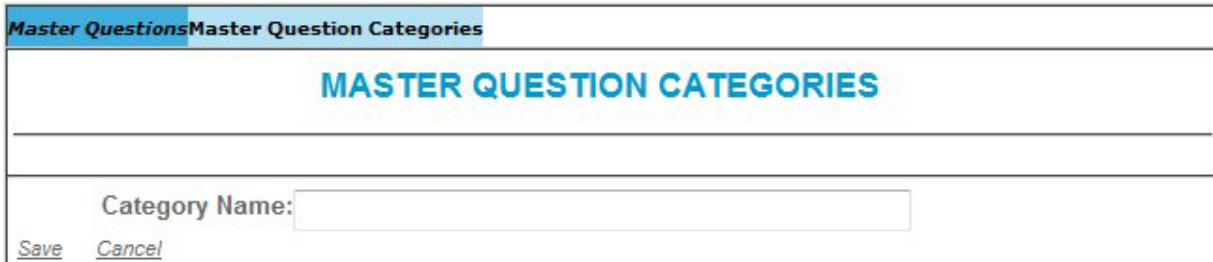
**Click here to edit an existing category**

**Click here to delete an existing category**

Figure 13 – Master Question Categories Screen



To add a new category, click on the “**Add Category**” link on the upper right hand corner of the table. This will bring up the screen as shown in Figure 14. To add a new category, simply type in the new category name and click “**Save**”.



Master Questions Master Question Categories

**MASTER QUESTION CATEGORIES**

Category Name:

[Save](#) [Cancel](#)

Figure 14 – Add new Master Question Categories screen

To change the name of a category, click on the “pencil” icon on the right of the Category name you want to change. The “pencil” icon can be located in Figure 13, on the right hand side of the screen. Figure 15 will appear when you click on the “pencil” icon next to the “**Official-Clerk**” category in Figure 13. To make any change, simply type over the content in the **Category Name** field.

When adding a new category or modifying an existing one, the Test Editor shall adhere to the naming convention established by the Online Test Committee. For Officials categories, the format is:

“Officials-xxxx-yyyy”

Where xxxx is the position and yyyy is the subcategory for Stroke and Turn (S&T.)

Exceptions are Disability Swimming, Master Swimming, and Open Water.

Any new Officials category shall require approval from the Online Test Committee prior to implementation.



Master Questions Master Question Categories

**MASTER QUESTION CATEGORIES**

Category Name:

[Save](#) [Cancel](#)

Figure 15 – Edit Master Question Categories screen

## 4.3 Searching for a Master Question

Refer to Figure 16, Master Question Search Screen. As you can see, there are quite a few ways to search for a particular Master Question or a group of Master Questions by using one or more of the search criteria.

The screenshot shows the 'MASTER QUESTION SEARCH' interface. At the top, there are navigation links for 'Master Questions' and 'Master Question Categories', and a link to 'Add Test Master Question'. The search criteria include:
 

- Master Question ID: [Text Input]
- Test Type: --All- [Dropdown]
- Category: --All- [Dropdown]
- Active?:  No  Yes
- Question: [Text Input]
- Sort By: Master Question ID [Dropdown] Then By: [Dropdown]

 At the bottom, there are 'Search' and 'Create Report' buttons.

Figure 16 – Master Question Search Screen

This screenshot shows the search results for a specific test type. The 'Test Type' dropdown is open, displaying a list of categories such as 'Certification - Administrative', 'Certification - Clerk of Course', 'Certification - Open Water Judge', etc. Below the dropdown, the search results are displayed in a table with columns for 'ID.Rev', 'Category', 'Status', 'Tests Used in', and 'Options'. The results show 75 questions found.

ID.Rev	Category	Status	Tests Used in	Options
226.19	Officials-Disability Swimming	Active	[Icon]	[Icon]
377.9	Officials-S&T-Breaststroke	Active	[Icon]	[Icon]
378.7	Officials-S&T-Breaststroke	Active	[Icon]	[Icon]

Figure 17 – Search by Test Type

If you know the Master Question ID, you can type in the ID number (you do not need to include the revision number) in the Master Question ID field. If you want to search by a particular test

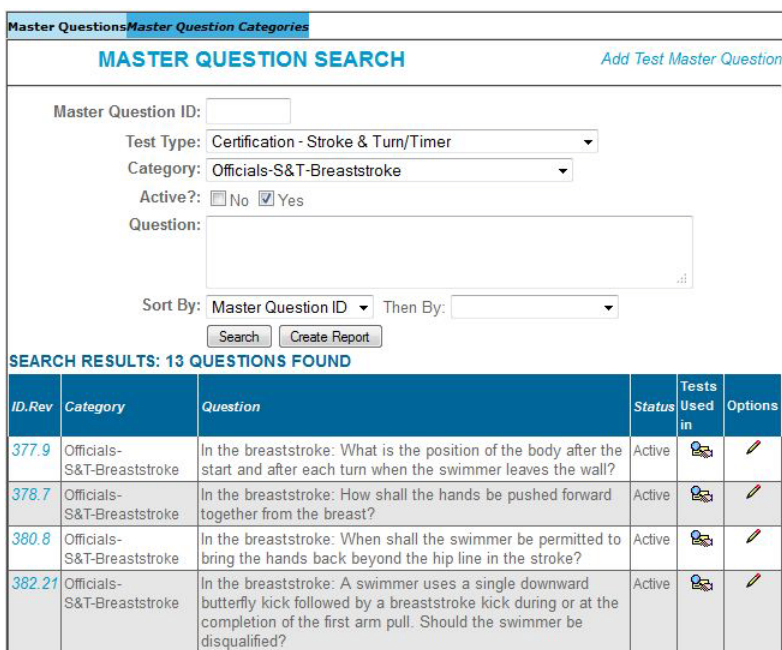
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type, click on the “down arrow” on the far right of the Test Type field and a drop-down menu of all the available test types will be displayed for you to select as shown in Figure 17.

If you do not care which test type contains the master question(s) you are searching for, just leave the default “-All-“ as the search criteria. Similarly, you can search by Category using the drop-down menu. You can narrow the search by selecting either “**Active**” or “**Inactive**” questions (or both) by checking the appropriate checkboxes. You can also search for questions that start with certain words such as “In the Breaststroke...” Simply type in “In the Breaststroke” in the “**Question**” field and the system will display all the questions that start with the exact words “In the Breaststroke”.

Finally, if you are expecting the system to return a large number of questions, you can sort the search results using the drop-down menu of the two-level “**Sort By**” fields. The available sort criteria are: Category, Master Question ID, Status (Active or Inactive), and Question Text. You can use the “**Create Report**” button to create a report of your sort results that you can save or print later. This capability of sorting, saving, and printing the search results (available in late 2012) is extremely important during the annual updating of the officials tests. Refer to the reference document “*Online Test Annual Update Guide*” for more details.

Let’s go over an example to illustrate the Search capability of the system. Suppose you are looking for a Breaststroke question in the Stroke & Turn/Timer Certification Test, you will click on the drop-down menu for Test Type to select “**Certification – Stroke & Turn/Timer**” and then select “**Official-S&T-Breaststroke**” in the Category field, the search results will appear as shown in Figure 18 when you click the “**Search**” button.



The screenshot shows the 'MASTER QUESTION SEARCH' interface. At the top, there are navigation links for 'Master Questions' and 'Master Question Categories'. The search form includes fields for 'Master Question ID', 'Test Type' (set to 'Certification - Stroke & Turn/Timer'), 'Category' (set to 'Officials-S&T-Breaststroke'), 'Active?' (with 'Yes' checked), and a 'Question' text area. Below these are 'Sort By' and 'Then By' dropdown menus, and 'Search' and 'Create Report' buttons. The search results section is titled 'SEARCH RESULTS: 13 QUESTIONS FOUND' and contains a table with 5 columns: ID.Rev, Category, Question, Status, Tests Used in, and Options. Four results are visible, all with a status of 'Active'.

ID.Rev	Category	Question	Status	Tests Used in	Options
377.9	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?	Active		
378.7	Officials-S&T-Breaststroke	In the breaststroke: How shall the hands be pushed forward together from the breast?	Active		
380.8	Officials-S&T-Breaststroke	In the breaststroke: When shall the swimmer be permitted to bring the hands back beyond the hip line in the stroke?	Active		
382.21	Officials-S&T-Breaststroke	In the breaststroke: A swimmer uses a single downward butterfly kick followed by a breaststroke kick during or at the completion of the first arm pull. Should the swimmer be disqualified?	Active		

Figure 18 – Master Question Search Example

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If you type “In the breaststroke” in the Question field, only the questions beginning with “In the breaststroke” will be displayed. However, if you type “In the breaststroke: How shall” in the Question field, you will only see Master Question ID 378 in the search results.

Let’s take a moment to examine the **SEARCH RESULTS** area in Figure 18.

Note that on top of the Search Results table, the total number of questions found based on the search criteria is displayed. This information is useful to the Test Editors who wants to know how many active questions are available in the database for a specific test.

There are six columns in the search table.

The first column displays the Master Question ID and its current revision. The Master Question ID and revision record has been discussed in detail in section 4.1.6 above.

The second column displays the Category of the Master Question in that row.

The third column displays the Question itself.

The fourth column shows the current Active or Inactive status of the Master Question.

The fifth column tells you in which test(s) this particular Master Question is being used when you move the cursor over the symbol. This is to alert you that when you make a change to this Master Question, you will be affecting all those listed tests. Figure 19 shows an example of the information displayed when you hover the mouse cursor over the “Tests Used In” symbol in the third row.

**SEARCH RESULTS: 13 QUESTIONS FOUND**

ID.Rev	Category	Question	Status	Tests Used in	Options
377.9	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?	Active		
378.7	Officials-S&T-Breaststroke	In the breaststroke: How shall the hands be pushed forward together from the breast?	Active		
380.8	Officials-S&T-Breaststroke	In the breaststroke: When shall the swimmer be permitted to bring the hands back beyond the hip line in the stroke?	Active		
382.21	Officials-S&T-Breaststroke	In the breaststroke: A swimmer is disqualified after a butterfly kick followed by completion of the first arm stroke?	Inactive	Certification - Stroke & Turn/Timer                      Foundations of Coaching                      Inactive-Certification - Stroke & Turn                      Inactive9/08-Book based Foundations of Coaching                      Re-Certification - Stroke & Turn/Timer                      Rules and Regs for Coaches                      YMCA - Level 1 Certification                      YMCA - Level 1 Re-Certification	
383.11	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the head at each turn and at the finish of the race?	Active		

**Hover the cursor over this symbol**

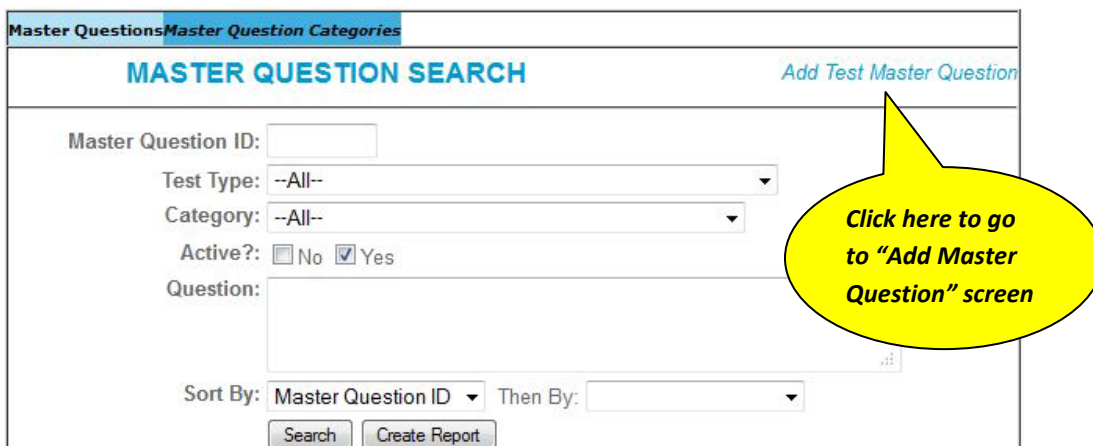
Figure 19 – “Tests Used In” Example

The last column contains the standard “Edit” icon which is a pencil. By clicking on the pencil, you will open up the selected Master Question on a new screen allowing you to make changes to the Master Question.

Note that there is no standard “Delete” icon (the red “X”) available. Once a Master Question is created and deployed (put in use), you will not be able to delete it. This is so that historical information can be preserved. So how does one go about removing a Master Question that is no longer valid because of a rule change? This is where the “Active” and “Inactive” checkboxes come in. We will discuss more on that later.

### 4.4 Adding a New Master Question

To add a new Master Question, click on the “*Add Test Master Question*” link on the upper right hand corner of the Master Question Search screen as shown in Figure 20.



The screenshot shows the 'MASTER QUESTION SEARCH' interface. At the top right, there is a link labeled 'Add Test Master Question'. A yellow callout bubble points to this link with the text: 'Click here to go to "Add Master Question" screen'. The search form includes fields for 'Master Question ID', 'Test Type', 'Category', 'Active?' (with 'No' and 'Yes' checkboxes), 'Question' (a text area), and 'Sort By'/'Then By' dropdowns. 'Search' and 'Create Report' buttons are at the bottom.

Figure 20 – Master Question Search screen

This will bring up the “**Master Question Search – Add Question**” screen as shown in Figure 21.

Let’s go over the steps in creating a new Master Question.

First, select an appropriate category from the drop-down menu in the “**Category**” field.

Next, enter the question text in the “**Question**” field. Make sure you follow the Editor’s Guidelines stated in Section 2.4 of this manual.

After you have entered the text for the question, click on the “**Active**” checkbox and the “**This is a 2 Part Question**” checkbox (for Officials Tests). For the Foundations of Coaching Test, leave this checkbox “unchecked”. Note that when you click on the “**This is a 2 Part Question**” checkbox, the display will expand to include “**QUESTION PART 2**” as shown in Figure 22.



The “**Active**” checkbox is used when the question is approved for use. The “**Active**” checkbox is left unchecked when the question becomes obsolete or there are similar questions elsewhere and you would like to remove one of them.

Master Questions Master Question Categories

**MASTER QUESTION SEARCH - ADD QUESTION**

Category: \*\*\* DO NOT USE \*\*\*

Question:

Active  This is a 2 Part Question

**ANSWER CHOICES**

Always Display Last:

None

Correct Answer:

Other Answer 2:

Other Answer 3:

Other Answer 4:

Other Answer 5:

Feedback:

**Figure 21 – Add Master Question screen 1**

You can enter up to five answer choices. You will need to put the “correct answer” in the first box under “**ANSWER CHOICES**”. The rest of the “incorrect answers” can be entered in any order in the remaining boxes. You can indicate which answer is to be “**Always Display Last**” by clicking on the radio buttons on the right side of the answer box. This is to be used for answers such as “All of the above” or “None of the above”. The default would be “None” which would allow the test to randomly display all answers each time the test is called up.

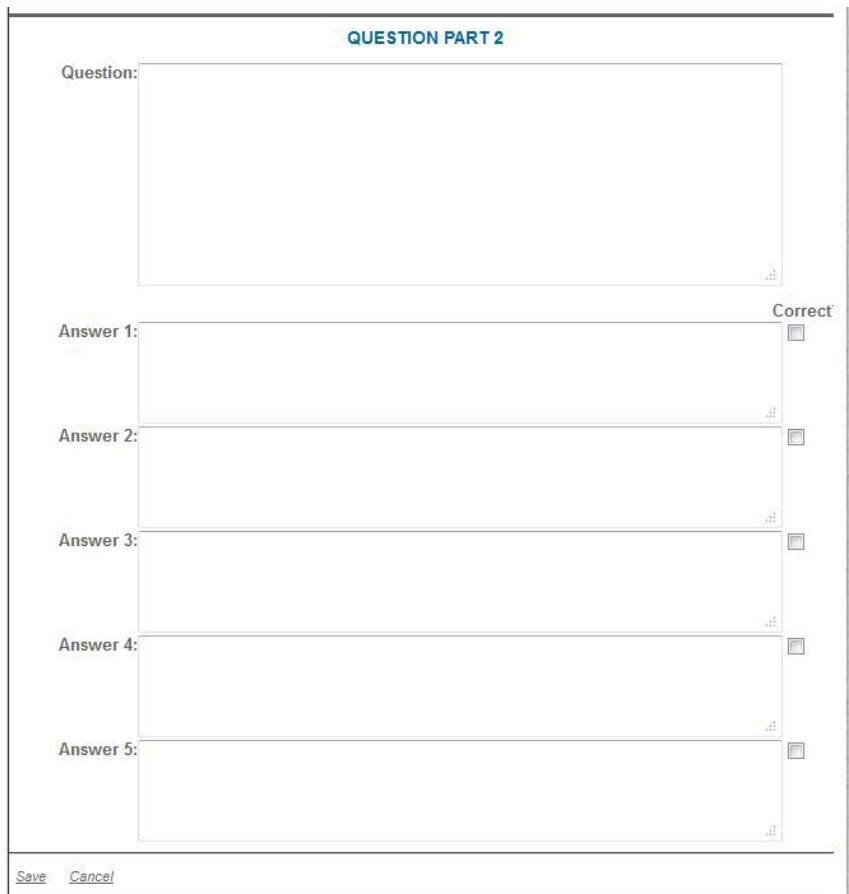
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Please note that all answers will be generated randomly each time the test is called up except for the one designated as “**Always Display Last**”. This means that you will not be able to construct answers such as “A and C” or “A or D”. While the system does allow these types of answers to be generated by not checking the “**Randomize Answer**” checkbox when building the test, the Online Test Committee has established a guideline to require randomizing all answers – see No. 11 of the Editing Guidelines in Section 2.4 above.

The “**Feedback**” box is to be left blank. It was originally used to provide “hints” on questions. The Online Test Committee over time, evolution and direct experience, has determined that the correct reference(s) are themselves the best hints. It would require a lot of work to keep the hints up to date as changes to the Rulebook (even as simple as a reference number change) would require an Editor to check the hints (which can be a long paragraph) for each question every year.

For Officials Tests, the Part 2 questions are “references” questions. You would normally enter “There is one (1) correct reference for this question” or “There are two (2) correct references for this question”, etc.



The screenshot shows a web interface for adding a master question. At the top, it says "QUESTION PART 2". Below that is a large text area labeled "Question:". Underneath are five rows, each labeled "Answer 1:" through "Answer 5:". To the right of each answer field is a small square checkbox labeled "Correct". At the bottom left of the form, there are two buttons: "Save" and "Cancel".

Figure 22 – Add Master Question screen 2

Enter the multiple choice reference answers (such as 102.2.1, 102.2.2, 102.2.3, etc.) in the answer boxes in any order. Use the “**Correct**” checkboxes on the right to indicate which answer(s) is the correct answer(s). Unlike Part 1 where you can only have one correct answer; Part 2 allows multiple correct references to the answer.

After you have verified that your new question has been entered correctly, click on the “**Save**” link at the bottom left of the screen. If for some reason you want to discard what you have entered, click on the “**Cancel**” link.

## 4.5 Editing an Existing Master Question

There are several reasons that may require a change to a Master Question in the Online Tests:

1. There is a change to the Rules and Regulations.
2. An error was discovered and reported by a test taker.
3. A question was found to be subject to misinterpretation as indicated by a high “miss rate” during an analysis of the test results taken across the country.

In all cases when the contents of a test question must be changed, the changes are to be performed on the Master Questions. This will allow the changes to be reflected in all tests that use the same Master Question.

The screenshot shows the 'MASTER QUESTION SEARCH' interface. At the top, there are tabs for 'Master Questions' and 'Master Question Categories'. Below the title, there is a search form with fields for 'Master Question ID' (containing '377'), 'Test Type' (set to '--All--'), 'Category' (set to '--All--'), and 'Active?' (with 'Yes' selected). A 'Question' text area is empty. Below the form are 'Search' and 'Create Report' buttons. A table of search results is displayed below, showing one result for ID 377.9. A callout points to the ID field with the text 'Enter Master Question ID here'. Another callout points to the 'Search' button with the text 'Click "Search". The search result appears below'. A third callout points to the pencil icon in the 'Options' column of the search result table with the text 'Click the Edit pencil to open the Master Question 377.9'.

ID.Rev	Category	Question	Status	Tests Used in	Options
377.9	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?	Active	0	

Figure 23 – Master Question Search screen

To change a Master Question, follow the same steps as outlined in Section 4.3 above to search for the question you want to edit.

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Let's go through an example on how to edit a Master Question.

Suppose you want to change Master Question 377. On the **MASTER QUESTION SEARCH** screen as shown in Figure 23, enter "377" in the Master Question ID field and click the "Search" button. Master Question 377.9 will be returned in the Search Results below.

Click on the Edit pencil on the right, Master Question 377.9 will appear in the **MASTER QUESTION SEARCH – EDIT QUESTION** window as shown in Figure 24. (Due to the length of the window, the bottom part (Part 2) is shown side-by-side in Figure 24.)

Figure 24 – Edit Master Question screen

From this **EDIT QUESTION** screen, you will be able to change any of the information in the question. When you are done editing the question, click on the "**Save**" link to save your work and exit.

**IMPORTANT:** If you do not want to make any change to the Master Question (for example, you open it just to view the question), make sure you **DO NOT** click "**Save**" to exit. Click on "**Cancel**" instead. Otherwise, you will end up bumping up the Revision number and creating a "blank" entry (when the system did not detect any changes) with just your name in the change

log. This is what has caused the “blank revisions” for Master Question 377 Revision 2, 6, and 8 as shown in Figure 11.

## 4.6 Deactivate a Master Question

As mentioned previously, there may be situations where you will need to “inactivate” a Master Question such as in the event that a Master Question has become obsolete due to a change in the Rulebook. While you can always “inactivate” this question from all the tests that use this question, it is much easier to “inactivate” the Master Question as you only need to do it once. However, it is very important for the Editor who “inactivates” the Master Question to inform all Editors responsible for the tests that are affected by the “inactivation” of this Master Question since this would effectively reduce the total number of questions for the affected tests by one. To find out which tests are affected by this Master Question, simply hover the mouse cursor over the “**Tests Used In**” icon of Master Question 377.9 as shown in Figure 25 below. As you can see, this question is being used in Stroke & Turn/Timer Certification Test, the Foundation of Coaching Test, and the YMCA Level 1 and Level 2 Certification tests.

To “deactivate” this Master Question, simply “uncheck” the “Active” checkbox of this Master Question (Figure 24).

The screenshot shows the 'MASTER QUESTION SEARCH' interface. The search criteria are: Master Question ID: 377, Test Type: --All--, Category: --All--, Active?:  No  Yes. The search results show 1 question found:

ID.Rev	Category	Question	Status	Tests Used in	Options
377.9	Officials-S&T-Breaststroke	In the breaststroke: What is the position of the body after the start and after each turn when the swimmer leaves the wall?	Active		

A tooltip is visible over the 'Tests Used In' icon, listing the following tests: Certification - Stroke & Turn/Timer, Foundations of Coaching, Inactive-Certification - Stroke & Turn, Inactive9/08-Book based Foundations of Coaching, and YMCA - Level 1 Certification, YMCA - Level 1 Re-Certification.

Figure 25 – Master Question 377 used in tests

To reduce confusion and to avoid “inadvertently reactivating” an obsolete Master Question that should never be used in any test, the Online Test Committee has created the following process:

1. Change the **Category** of the subject Master Question to “**\*\*\* DO NOT USE \*\*\***”
2. Add the following text “**\*\*\* DO NOT USE \*\*\***” and a blank line in front of the question.
3. Verify that the “**Active**” checkbox is left blank before saving the changes.



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Figure 26 shows a Master Question Search using the Search Criteria of “ \*\*\* DO NOT USE \*\*\* ” Category. These questions became obsolete because they were in the format of either “TRUE OR FALSE” questions or they were questions that were not written in a “question format” (that is, ended with a “?”); thereby violating the Editors Guidelines #11 and #10, respectively (Refer to Section 2.4 above.)

These questions have since been rewritten to a format complied with the Editors Guidelines and therefore were deemed to be “safe” to convert them into the “DO NOT USE” Category. By putting them into their own Category, it will allow the system to easily archive them or remove them totally from the database in the future when it has been determined that enough time has passed (may be 5 to 10 years) when there is no value in saving these historical data.

The screenshot shows the 'MASTER QUESTION SEARCH' interface. At the top, there are tabs for 'Master Questions' and 'Master Question Categories'. The search criteria are as follows:

- Master Question ID:
- Test Type: --All--
- Category: \*\*\* DO NOT USE \*\*\*
- Active?:  No  Yes
- Question:
- Sort By: Master Question ID Then By:

Buttons for 'Search' and 'Create Report' are located below the search criteria. The search results are displayed in a table with the following data:

ID.Rev	Category	Question	Status	Tests Used in	Options
100.4	*** DO NOT USE ***	*** DO NOT USE *** In the backstroke, if, after a legal start, a swimmer curls his or her toes over the lip of the gutter, the swimmer should be disqualified.	Inactive		
101.3	*** DO NOT USE ***	*** DO NOT USE *** In an backstroke event, a butterfly or dolphin kick may:	Inactive		
102.4	*** DO NOT USE ***	*** DO NOT USE *** During the backstroke turn, if the shoulders turn past the vertical, the swimmer:	Inactive		

Figure 26 – “DO NOT USE” Master Questions

For “newly obsolete” questions (those that were set to “Inactive”) within the past year or two, it is a good idea to not convert them to “DO NOT USE” until three years have passed as most “requests for investigation” seldom require looking into tests taken more than two to three years ago. While it is still possible to “find” these old obsolete questions after they have been converted to “DO NOT USE” by using the Question ID, it would be easier to search an obsolete (and “Inactive”) question using the original Category.

## 4.7 Tips and Techniques when Working with Master Questions

Here are some helpful hints to keep in mind when working with Master Questions:

1. Construct your questions using the Rulebook verbiage – avoid paraphrasing.
2. Avoid using situations since many situations require additional investigations that may produce multiple outcomes which cannot be answered directly from the Rulebook.
3. Avoid complex questions that cover more than one topic – break it up into two or three separate questions.
4. Keep the question and answer as simple as possible.

## 5 Tests

As mentioned previously, a test is a collection of Master Questions. There are a number of general rules one should follow when creating or modifying a test besides those listed in the Editor's Guidelines.

The Test should have more Master Questions assigned to it than the total number of questions to be generated each time a test taker calls up the test. This will allow randomization of test questions within a test. For example, the Referee Certification Test consists of 100 questions. The number of active questions available for the Referee Certification Test is 148. When a Test Taker calls up a Referee Certification Test, the system will randomly generate 100 questions from the pool of 148 Master Questions in the database. Along with the randomization of answers within each test question, this will make it a little more difficult for the test takers to share test answers with each other. On the "user friendly" side, this capability allows us to reduce the size of some tests (especially the recertification tests) while still able to cover most of the topics in the Rulebook.

When new rules and regulations are introduced each year, it is important to make sure that new questions generated to cover these new rules show up on the Certification and Recertification Tests. To make sure such new questions will be included in all tests generated while still allow for randomization, an "Always Use Question" checkbox is used for such purpose. It is important to review all the questions to "uncheck" the "Always Use Question" checkbox when the question becomes "old news" and may not be deemed "must use" (this is another reason for checking this checkbox) as compared to other questions. Too many "Always Use Questions" defeats the purpose of randomization.

### 5.1 The Components of a Test

There are four major components of a test:

1. The Test Setup

2. The Question Setup
3. The Sections Grouping
4. The Master Questions

We will go over each of these components in the following sections.

## 5.2 Adding a New Test

A “Super User” account privilege is required to add a new test to the system. Once a new test is created, a Test Editor will be assigned to populate the test with Master Questions and perform maintenance of the test afterward. The process of creating a new test involves updating the “Select A Test” table and adding the new test to all the Test Type drop-down menus. This special administrative process is beyond the scope of this manual.

## 5.3 Editing or Setting Up a Test

To edit an existing test, select a test you want to edit from the **Select A Test** table as shown in Figure 27. This is the default screen that will be displayed when you click on the “**Admin for Online Tests**” link from the Members Resources drop-down menu (Figure 3) or click on the “*Admin for Online Tests*” link from the “**Officials**” menu on the left.

Select A Test							
Test Type	# Answers To Pass	# Sections	# Questions	# Times Taken	Status	Last Modified	Options
Certification - Administrative	80	31	99	3079	Active	5/8/2012	
Certification - Clerk of Course	60	7	78	4610	Active	4/30/2012	
Certification - Open Water Judge	64	10	66	109	Active	10/18/2012	
Certification - Open Water Referee	64	10	82	73	Active	10/18/2012	
Certification - Referee	80	46	148	3783	Active	5/3/2012	
Certification - Starter	64	20	75	7125	Active	5/3/2012	
Certification - Stroke & Turn/Timer	13	1	1	1	Active	5/8/2012	
Certification - Timer	13	1	1	1	Active	5/3/2012	
Certification - Timing Judge	13	1	1	1	Active	1/23/2013	
Foundations of Coaching	26668				Active	10/29/2012	
Inactive-9/08-Book based Founda	12944				Inactive	5/4/2012	
Inactive-Certification - Open Wate	351				Inactive	10/18/2012	
Inactive-Certification - Stroke & T	12287				Inactive	5/8/2012	
Inactive-Re-Certification - Referee	307				Inactive	4/30/2012	
Inactive-Re-Certification - Starter	1106				Inactive	5/2/2012	
Inactive-Re-Certification - Stroke & Turn	40	12	41	4612	Inactive	5/8/2012	
Re-Certification - Administrative	40	23	69	997	Active	5/4/2012	
Re-Certification - Clerk of Course	40	7	56	1146	Active	4/30/2012	
Re-Certification - Referee	160	53	248	3670	Active	1/23/2013	
Re-Certification - Starter	48	20	88	2442	Active	5/3/2012	
Re-Certification - Stroke & Turn/Timer	48	20	86	8027	Active	5/8/2012	
Re-Certification - Timer	32	6	35	2503	Active	5/3/2012	
Re-Certification - Timing Judge	40	9	81	1453	Active	1/23/2013	
YMCA - Level 1 Certification	104	23	68	4	Inactive	5/3/2012	
YMCA - Level 1 Re-Certification	72	20	49	2	Inactive	4/30/2012	
YMCA - Level 2 Certification	160	44	114	2	Inactive	1/23/2013	
YMCA - Level 2 Re-Certification	120	39	84	2	Inactive	1/23/2013	

Figure 27 – Select A Test Main Screen

Note that there are four tabs on top of the “**Admin for Online Tests**” main screen. The “**Select A Test**” screen is actually under the “**Browse**” tab. Therefore, you can always go back to this

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screen by clicking on the “**Browse**” tab. Let’s go through an example on how to edit the “**Clerk of Course**” Certification Test.

On the “**Select A Test**” table, click on the “pencil” icon at the right of the “**Certification – Clerk of Course**” Test Type (second row) as shown in Figure 27. The **Test Type** screen of the Clerk of Course Certification Test will be displayed. Because of the length of the Test Type (setup) screen, I have divided the screen into three parts as shown in Figure 28, Figure 29, and Figure 30.

The **Test Type** screen contains all the editable fields that one can modify. These fields are entered with the appropriate checkboxes checked when the test was created originally.

**Browse** **Test Type** **Sections** **Questions**

**CERTIFICATION - CLERK OF COURSE**

Test Name: Certification - Clerk of Course

Active?:

Use 2-Part Questions?:  Yes

If using 2-Part Questions, show separate scores for questions and references?:  Yes

Overall Number Of Correct Answers to Pass: 60  
For 1-Part questions, this is the total number of correct answers to pass.  
For 2-Part questions, this is the total combined number of Part 1 and Part 2 answers to pass.  
(Example: A 2-part test with 5 questions will have 10 answers)

Part 1 Number Of Correct Answers to Pass: 0  
For 1-Part questions, this does not apply.  
For 2-Part questions, this is the total number of Part 1 answers to pass if you want to grade by question parts. Leave this value at zero if you do not want to grade 2-part questions by question part.

Part 2 Number Of Correct Answers to Pass: 0  
For 1-Part questions, this does not apply.  
For 2-Part questions, this is the total number of Part 2 answers to pass if you want to grade by question parts. Leave this value at zero if you do not want to grade 2-part questions by question part.

Test Grading Method:  Mark the test as Passed or Failed  
 Show Percent Answered Correct Only

Show Percentiles in Online Test Results:  National  Lsc  
Do not display percentiles in test results until 0 results recorded.

When Test Passed or Test is Graded by "Percent Answered Correct Only", Notify By Email:

When Test is Passed or Test is Graded by "Percent Answered Correct Only", Send Email to persons in SWIMS group with same LSC:  Yes  
SWIMS Group Code: LOFC (LSC Officials Chair)

Figure 28 – Test Type Screen 1 of 3

Therefore, they should **not** be altered by the Test Editors during routine maintenance except as noted below.

As you can see, there are many settings (checkboxes) one can use to configure a test as is evident by the lengthy setup screen. This is because of the different needs for the different type of tests: Officials Tests, Coaches Tests, Master Swimming Tests, and YMCA Tests. The focus on this manual is primarily for Officials Tests because a majority of the tests are geared toward Officials Certification and Recertification. We will mention some of the key settings for the other tests as we go over Figure 28, Figure 29, and Figure 30 in more details.

### 5.3.1 The Test Name and the “Active?” Checkbox

Refer to Figure 28. The Test Name field should not be altered by the Test Editor as it would impact historical data. The next field, the “**Active?**” checkbox serves a very important function for the Test Editors during the annual updates. When the “**Active?**” checkbox is checked as shown in Figure 28, the test is available online for the public to use. During the annual Online Test Update “shutdown” period, the “**Active?**” checkbox of all the tests will be “unchecked” so that the tests will be unavailable online. The Test Editors can then make their modifications and updates to their responsible tests while they are “offline”. However, in order to “test” the new updates, the tests have to be brought back online by “checking” the “**Active?**” checkbox so that it is available to the Test Editor to take the test. Of course, it is also available to the public when it is brought back online. Therefore, it is critical for the Test Editors to keep this “active” period as short as possible (just long enough to do a test) and take it offline as soon as the test is done.

### 5.3.2 2-Part Questions

The next group of checkboxes is for setting up a 1-Part or 2-Part questions. Currently, except for the Foundations of Coaching Test, all tests use 2-part questions where Part 1 are multiple choice questions relating to the Rules and Regulations and Part 2 are multiple choice questions regarding which are the correct references from the corresponding Rulebook. For all Officials Tests, the “**Use 2-Part Questions**” checkbox should be checked.

The next checkbox “**If using 2-Part Questions, show separate scores for questions and references?**” is primarily created for the YMCA tests where the pass criteria requires that a minimum number of questions must be answered correctly for both Part 1 and Part 2 along with a minimum number of correct answers for the entire test. For the USA Swimming Officials, only a minimum number of total correct answers are required to pass the test. Therefore, this checkbox should be left blank for Officials Tests and should be “checked” for YMCA Tests.

### 5.3.3 Number of Correct Answers to Pass



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The next three entries allow the Test Editor to enter the number of correct answers to pass for the overall test (Part 1 plus Part 2), Part 1 only, and Part 2 only, respectively. For the USA Swimming Officials Tests, the “**Overall Number of Correct Answers to Pass**” should be set at 80% of the total test questions. Therefore, if there are 50 questions total, the overall number of correct answers to pass should be set to 40. In the case of the Clerk of Course Certification Test, there are 75 total questions. Therefore, the overall number of correct answers to pass is set to 60 (80% of 75). Since the Officials Tests do not require a specific minimum number of correct answers for Part 1 or Part 2, those two entries will be set to 0. For the YMCA tests, these two entries will have a number as specified by the YMCA certification requirements.

When Test completed, send email to Test Taker regardless of grade or score:  Yes

When Test is Passed or Test is Graded by "Percent Answered Correct Only", Include this Text In Notification Email:

Send SWIMS Message?:  Yes

SWIMS Message Text:

Tests that cause an update to a members SWIMS record when passed:

Update Coaches Education Requirement in SWIMS for passed tests?  Yes

Update STSC expiration date in SWIMS for passed tests?  Yes

Number of days after passing the test before expiring?  This does not apply to most tests, leave blank if not needed.

Require Birth Date?"  Yes

ASCA Certification:  Prompt user about ASCA certification when taking test?

YMCA Dual Cert:  Prompt user about YMCA Dual Certification when taking test

YMCA Region:  Prompt user about YMCA Region when taking test

Require the Test Taker to select an LSC when signing up for a test:  Yes

When LSC Required, show confirmation popup when starting a test:  Yes

Show Clinic Instructor Field?:  Yes

Test Instructions:

Figure 29 – Test Type Screen 2 of 3

## 5.3.4 Other Setup Fields

The rest of the setup fields (as shown in Figure 29 and Figure 30) serve various purposes for the different kind of tests (Officials, YMCA, and Coaches). The discussion of the Coaches and YMCA setup is beyond the scope of this manual. For the USA Swimming Officials Tests, the checkboxes that are “checked” in Figure 28, Figure 29, and Figure 30 shall be the default configuration for all tests and should not be altered.



Figure 30 – Test Type Screen 3 of 3

## 5.4 Deleting a Test

Once a test has been put online and used by the public, it cannot be deleted. This is necessary for historical data preservation purposes. However, you can make a test “Inactive” if it has been determined that the test is no longer needed for some reason. As mentioned in 5.3.1 above, you can use the “Active” checkbox to temporarily deactivate a test while making changes to it.

Obviously, if you leave this checkbox “blank” permanently, the test will no longer be available to the general public until someone “activates” it again by clicking the “**Active**” checkbox.

## 5.5 Test Sections

Test sections are used to divide up a test to smaller groups of related questions. This will allow better organization of the tests, especially a large test such as the Referee Recertification Test. It will also provide the test takers a starting point to search for the correct answers when taking a test. Finally, it will help facilitate test analysis during the review of tests taken in the past.

For the Officials Tests, the test sections are usually based on the technical rule paragraph number such as 101.5-Freestyle, or 102.11-Referee, etc. It is recommended that the Test Editors avoid using rulebook section numbers that extend beyond 2 levels such as 102.24.4-Determining Official Time. This is because when you create a pool of questions that allow the test to generate a smaller number of questions randomly, such random generation of test questions occurs at the **Sections level only**. We will discuss this in more detail in 5.5.2 below.

To see the sections of a test, click on the “**Sections**” tab when the test is selected. Let’s use the Starter Certification Test as an example. Refer to Figure 31 below. When you click on the “**Sections**” tab (the third tab on top), you will see the Sections table displayed as shown in Figure 32.

**Browse** **Test Type** **Sections** **Questions**

**CERTIFICATION - STARTER**

Test Name: Certification - Starter

Active?:

Questions?:  Yes

If using 2-Part Questions, show separate scores for questions and references?:  Yes

Overall Number Of Correct Answers to Pass:

For 1-Part questions, this is the total number of correct answers to pass.  
For 2-Part questions, this is the total combined number of Part 1 and Part 2 answers to pass.  
(Example: A 2-part test with 5 questions will have 10 answers)

*Click here to see the "Sections" of the Starter Certification Test*

Figure 31 – Starter Certification Test

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As you can see from Figure 32, there are 19 sections created for the Starter Certification Test. Let's examine all the columns individually.

CERTIFICATION - STARTER <span style="float: right;">Add Section</span>						
Section	# Questions To Generate	# Active Questions	# Active Always Used Questions	# Active Paper Questions	Move	Options
Rules&Regs:101.1-Starts	14	15	0	14	↑ ↓	
Rules&Regs:101.1-Starts, 101.4-Backstroke	1	1	0	1	↑ ↓	
Rules&Regs:101.4-Backstroke	4	4	0	4	↑ ↓	
Rules&Regs:101.5-Freestyle	2	2	0	2	↑ ↓	
Rules&Regs:102.5-Seeding, Lanes, Swim-Offs, Heats	1	1	0	1	↑ ↓	
Rules&Regs:102.6-Counters	1	1	0	1	↑ ↓	
Rules&Regs:102.7-Postponements&Program Changes	1	1	0	1	↑ ↓	
Rules&Regs:102.11-Referee	0	0	0	0	↑ ↓	
Rules&Regs:102.11-Ref., 102.12-Starter, 101.1-Starts	1	1	0	1	↑ ↓	
Rules&Regs:102.12-Starter	2	2	0	2	↑ ↓	
Rules&Regs:102.13-Judges, 101.4-Backstroke	1	1	0	1	↑ ↓	
Rules&Regs:103.17-Recall Device	1	1	0	1	↑ ↓	
Rules&Regs:105.1&105.1.2-Disabilities, 102.11-Ref.	1	1	0	1	↑ ↓	
Rules&Regs:105.2, 105.4&105.5-Disability References	1	1	0	1	↑ ↓	
Rules&Regs:105.3-Deaf and Hard of Hearing	4	6	2	4	↑ ↓	
Rules&Regs:105.5-Physical Disabilities	1	1	0	1	↑ ↓	
Rules&Regs:304-Code of Conduct	1	1	0	1	↑ ↓	
Rules&Regs:701.2-Rules, 701.17-The Starter	1	1	0	1	↑ ↓	
Rules&Regs:USMS Rules	2	2	0	2	↑ ↓	
***Questions no longer used in this test	0	0	0	0	↑ ↓	
<b>Total</b>	<b>40</b>	<b>43</b>	<b>2</b>	<b>40</b>		

Figure 32 – Sections Table – Starter Certification Test

## 5.5.1 Section

The first column is the **Section** Name. Note that the specific format used in the Sections naming convention. Since the Starter Test's questions are all from the Rulebook, the Sections are all starting with "**Rules&Reg:**" followed by the paragraph number and description from the Rulebook. The last row is used for "obsolete sections" that are no longer used in this test.

## 5.5.2 # Questions to Generate

The second column identifies the **number of questions to generate** for this particular test from each section. This is how the system is able to randomly generate a specific number of test questions from a larger pool of master questions. As mentioned previously, sections are used to divide up test questions into "related" groups so that it is easier to manage. However, when you

divide the questions up into too many groups, the number of questions in each group may become too small (1 or 2) thus making it not possible to “randomly generate” questions within each section. When there is only 1 question in a section (e.g., there are 12 sections in the Starter Certification Test that have only 1 question each), these questions become “must use” questions since you cannot generate less than 1 question from a section. Therefore, it is important to do some planning to take the **number of questions to generate** into consideration when setting up sections for a particular test.

Note that the total number of questions to generate (as shown at the last row) should match the total number of questions assigned to be used in this test. Since this is a 2-Part questions test, the total number of questions in the Starter Certification would be  $40 \times 2 = 80$  questions. This should match the 80% correct answers (64) to pass requirement as set in the Question Setup screen as shown in Figure 31 above.

### 5.5.3 # Active Questions

The third column is the total number of “**Active**” questions assigned to this test for each section. Note that the more active questions available for each section, the better the system will be able to generate random number of test questions from the larger pool of Active questions. In this case, the first section “**Rules&Reg: 101.1-Starts**” has 15 “**Active**” questions that the system can randomly generate 14 questions from this section each time a test is called. “**Active**” question is a checkbox one can “check” to make the question active when setting it up. We will discuss this in an example later.

### 5.5.4 # Active Always Used Questions

The fourth column identifies the number of questions designated as “**Always Used**” in each section by the Test Editor. Examples of “**Always Used**” questions are those that are new and those that are considered fundamental “must know” questions for the test takers. “**Always Used Question**” is a checkbox one can “check” when setting up a test question. We will discuss this in an example later.

### 5.5.5 # Active Paper Questions

The fifth column identifies the number of “**Active Paper Questions**” designated by the Test Editor in each section. Questions can be designated as “**Paper Questions**” by checking the “**Paper Question**” checkbox when setting up the test question. Paper Questions are intended to be used by the Clinic instructors to print out copies to be used by students during a clinic or to be used by test takers who do not have access to computers. Note that the number of paper questions must match the total number of questions to generate. The only difference is that the paper questions will be a fixed set of questions – that is, not randomly generated as those taken online.



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## 5.5.6 Move

The sixth column allows the user to change the order of the Sections as they appear on the table. You can use the up or down arrows to move a particular row up or down to create a new order.

## 5.5.7 Options

The last column displays the standard “**Edit**” pencil that allows the user to make changes to the Section. For example, when you click on the pencil on the right of the first row, you will see the Section Edit screen below the table (See Figure 33). Note that you can only change the “**Section Name**” and the “**Number of Question To Generate**” for that row.

CERTIFICATION - STARTER						
Section	# Questions To Generate	# Active Questions	# Active Always Used Questions	# Active Paper Questions	Move	Options
Rules&Regs:101.1-Starts	14	15	0	14	↑ ↓	
Rules&Regs:101.1-Starts, 101.4-Backstroke	1				↑ ↓	
Rules&Regs:101.4-Backstroke	4				↑ ↓	
Rules&Regs:101.5-Freestyle	2				↑ ↓	
Rules&Regs:102.5-Seeding,Lanes,Swim-Offs,Heats	1				↑ ↓	
Rules&Regs:102.6-Counters	1	1	0	1	↑ ↓	
Rules&Regs:102.7-Postponements&Program Changes	1	1	0	1	↑ ↓	
Rules&Regs:102.11-Referee	0	0	0	0	↑ ↓	
Rules&Regs:102.11-Ref.,102.12-Starter,101.1-Starts	1	1	0	1	↑ ↓	
Rules&Regs:102.12-Starter	2	2	0	2	↑ ↓	
Rules&Regs:102.13-Judges, 101.4-Backstroke	1	1	0	1	↑ ↓	
Rules&Regs:103.17-Recall Device	1	1	0	1	↑ ↓	
Rules&Regs:105.1&105.1.2-Disabilities,102.11-Ref.	1	1	0	1	↑ ↓	
Rules&Regs:105.2,105.4&105.5-Disability References	1	1	0	1	↑ ↓	
Rules&Regs:105.3-Deaf and Hard of Hearing	4	6	2	4	↑ ↓	
Rules&Regs:105.5-Physical Disabilities	1	1	0	1	↑ ↓	
Rules&Regs:304-Code of Conduct	1	1	0	1	↑ ↓	
Rules&Regs:701.2-Rules, 701.17-The Starter	1	1	0	1	↑ ↓	
Rules&Regs:USMS Rules	2	2	0	2	↑ ↓	
***Questions no longer used in this test	0	0	0	0	↑ ↓	
<b>Total</b>	<b>40</b>	<b>43</b>	<b>2</b>	<b>40</b>		

Section Name:

Number Of Question To Generate:

[Save](#) [Cancel](#)

Click here to open up the Section Edit screen below

Figure 33 – Edit Section – Starter Certification Test

## 5.5.8 Adding a New Test Section

To add a new Test Section, click on the “**Add Section**” link on the upper right of the Section Table as shown in Figure 32. The **Section Edit** screen similar to Figure 34 will be displayed at the bottom of the table. You can then enter the new **Section Name** and the **Number of Question to Generate**. Click “Save” and the new section will be created.

Browse	Test Type	Sections	Questions			
<b>CERTIFICATION - STARTER</b>						
Section	# Questions To Generate	# Active Questions	# Active Always Used Questions	# Active Paper Questions	Move	Options
Rules&Regs:101.1-Starts	14	15	0	14	↑ ↓	
Rules&Regs:101.1-Starts, 101.4-Backstroke	1	1	0	1	↑ ↓	
Rules&Regs:101.4-Backstroke	4	4	0	4	↑ ↓	
Rules&Regs:101.5-Freestyle	2	2	0	2	↑ ↓	
Rules&Regs:102.5-Seeding,Lanes,Swim-Offs,Heats	1	1	0	1	↑ ↓	
Rules&Regs:102.6-Counters	1	1	0	1	↑ ↓	
Rules&Regs:102.7-Postponements&Program Changes	1	1	0	1	↑ ↓	
Rules&Regs:102.11-Referee	0	0	0	0	↑ ↓	
Rules&Regs:102.11-Ref., 102.12-Starter,101.1-Starts	1	1	0	1	↑ ↓	
Rules&Regs:102.12-Starter	2	2	0	2	↑ ↓	
Rules&Regs:102.13-Judges, 101.4-Backstroke	1	1	0	1	↑ ↓	
Rules&Regs:103.17-Recall Device	1	1	0	1	↑ ↓	
Rules&Regs:105.1&105.1.2-Disabilities,102.11-Ref.	1	1	0	1	↑ ↓	
Rules&Regs:105.2,105.4&105.5-Disability References	1	1	0	1	↑ ↓	
Rules&Regs:105.3-Deaf and Hard of Hearing	4	6	2	4	↑ ↓	
Rules&Regs:105.5-Physical Disabilities	1	1	0	1	↑ ↓	
Rules&Regs:304-Code of Conduct	1	1	0	1	↑ ↓	
Rules&Regs:701.2-Rules, 701.17-The Starter	1	1	0	1	↑ ↓	
Rules&Regs:USMS Rules	2	2	0	2	↑ ↓	
***Questions no longer used in this test	0	0	0	0	↑ ↓	
<b>Total</b>	<b>40</b>	<b>43</b>	<b>2</b>	<b>40</b>		
Section Name: <input style="width: 600px;" type="text"/> Number Of Question To Generate: <input style="width: 50px;" type="text"/>						
<a href="#">Save</a> <a href="#">Cancel</a>						

Figure 34 – Add Section – Starter Certification Test

## 5.6 Test Questions

To work with Test Questions of a particular test, click on the “Questions” tab (the last tab) on top of the selected test as shown in Figure 35. The Test Question Search Screen (Figure 36) will display.

**Browse** **Test Type** **Sections** **Questions**

### CERTIFICATION - STARTER

Test Name:

Active?:

Use 2-Part Questions?:  Yes

If using 2-Part Questions, show separate scores for questions and references?:  Yes

Overall Number Of Correct Answers to Pass:

For 1-Part questions, this is the total number of correct answers to pass.  
For 2-Part questions, this is the total combined number of Part 1 and Part 2 answers to pass.  
(Example: A 2-part test with 5 questions will have 10 answers)

Figure 35 – Starter Certification Test – Select Questions

**Browse** **Test Type** **Sections** **Questions**

### CERTIFICATION - STARTER

Master Question ID:

Active?:  No  Yes

Always Used?:  No  Yes

Assigned to this Test?:

Not Assigned to this Test?:

Section:

Question:

Figure 36 – Starter Certification Test – Question Search Screen

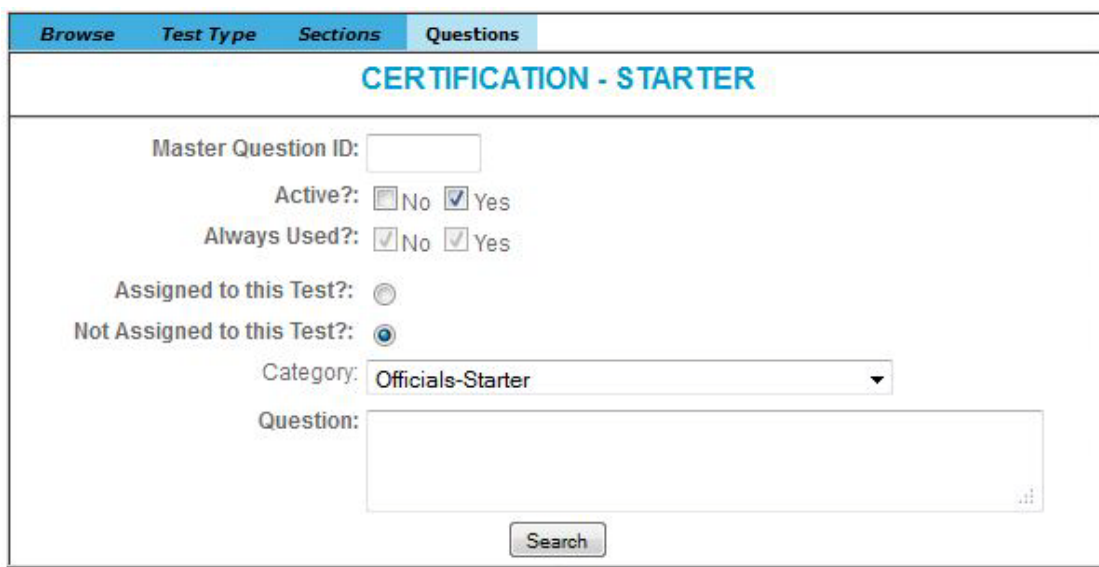
## 5.6.1 Searching for a Question to Add

As you can see in Figure 36, you can search for any test question by entering the Master Question ID (if known). You can also further set the search criteria based on whether the questions are “**Active**” or not, whether they are “**Always Used**” questions, and whether or not they are “**Assigned to this Test**”. Note that you are not just searching for questions from the Starter Certification Tests only. With the capability of searching for any question whether they are assigned to this test or not, you can add unassigned questions to this test.

If you check the “**Assigned to this Test?**” radio button, you can search by “**Section**”. If you check the “**Not Assigned to this Test?**” radio button, then you can search by “**Category**”. We will go over an example below.

Finally, similar to the Master Question Search screen, you can also search by entering the first several words of the question(s) you are looking for by entering the words in the “**Question**” text box.

Let’s look at an example. Let’s say you would like to find out if there are other Master Questions in the category of Starter that have not been assigned to the Starter Certification Test. You would enter the search criteria as shown in Figure 37. Note that the “**Section**” field has changed to “**Category**” field when you click on the “**Not Assigned to this Test?**” radio button. We will select “**Officials-Starter**” from the **Category** drop-down menu. When you click the “**Search**” button, the search results will be displayed as shown in Figure 38.



The screenshot shows a web interface for searching questions. At the top, there are navigation tabs: "Browse", "Test Type", "Sections", and "Questions". Below the tabs, the page title is "CERTIFICATION - STARTER". The search form includes the following fields and options:

- Master Question ID:
- Active?:  No  Yes
- Always Used?:  No  Yes
- Assigned to this Test?:
- Not Assigned to this Test?:
- Category:
- Question:
- Search:

Figure 37 – Starter Certification Test – Question Search - Not Assigned

As you can see from Figure 38, there are three active questions in the Starter category that have not been assigned to the Starter Certification Test. If the Editor decides to add them to the pool of active questions to be used in the Starter Certification Test, he can simply click on the “+” button on the right of the Master Question(s) under the “Options” column to add the selected questions to the test.

**CERTIFICATION - STARTER**

Master Question ID:

Active?:  No  Yes

Always Used?:  No  Yes

Assigned to this Test?:

Not Assigned to this Test?:

Category: Officials-Starter

Question:

**SEARCH RESULTS: 3 QUESTIONS FOUND**

Master Question ID	Category	Question	Status	Options
148	Officials-Starter	What might happen to swimmers, when they enter the water in response to a "stand up" command by the Starter?	Active	
152	Officials-Starter	Upon finishing a race, which violation may a swimmer be disqualified for by the Starter with the Referee's independent confirmation of the infraction?	Active	
558	Officials-Starter	In which event, shall the Starter or a designee sound a warning signal over the water at the finish end of the lane of the leading swimmer when that swimmer has two lengths plus five yards or five meters to swim?	Active	

1

Figure 38 – Starter Certification Test – Question Search - Results

## 5.6.2 Searching for a Question to Edit

Suppose you want to make a change to an existing question within the Starter Certification Test. Below is an example on how to do that.

Typically, you will probably know the Master Question ID of the particular question you would like to make changes to. This is because changes are usually necessary when there are problems reported on a particular question or when there are rule changes that have affected a particular question. In the former case, you can identify the Master Question ID from the test analysis report or from the test results. In the latter case, rule change analysis is done at the Master Questions level. For our example, we want to demonstrate the “Section” search capability by assuming the Test Editor knows the test question he wants to change is in a particular test



section. Figure 39 shows the search criteria he would enter. When he clicks on the “**Search**” button, the system found two Master Questions matching the search criteria.

Let’s say Master Question 913 is the one he wants to edit. He will click on the pencil icon in the **Options** column of Master Question 913. This will open up Master Question 913 as “used” in the Starter Certification Test (Figure 40 and Figure 41).

Browse
Test Type
Sections
Questions

CERTIFICATION - STARTER

Master Question ID:

Active?:  No  Yes

Always Used?:  No  Yes

Assigned to this Test?:

Not Assigned to this Test?:

Section: Rules&Regs:102.12-Starter

Question:

SEARCH RESULTS: 2 QUESTIONS FOUND

Master Question ID	Section	Question	Status	Always Used Question?	Paper?	Times Used	Options
913	Rules&Regs:102.12-Starter	Where shall the Starter stand to start a race?	Active	N	Yes	5576	
927	Rules&Regs:102.12-Starter	What optional instructions may the Starter give?	Active	N	Yes	5576	

1

Figure 39 – Starter Certification Test – Assigned Question Search

### 5.6.3 Editing a Question in a Test

There are only a handful of settings you can change in a question that is assigned to a test. This is as expected since the question comes from the Master Question database and the contents of a Master Questions can only be changed from the Master Question Editing Screen. You will notice that most of the contents of the question are “grey out” – meaning that you cannot make changes to those areas. The following is a list of the settings that you can change within a test question:

**Section** – You can select a different Section from the drop-down menu. Although **Sections** seldom require changes, there were situations in the past that required changing a **Section** description when a change in the Rulebook caused the reference paragraph number to be bumped up or down because of insertion of a new paragraph or deletion of an existing paragraph. Refer to 5.5 above on how to add or modify a **Section**.

**Active** – The “**Active**” checkbox works similar to the **Active** checkbox of the **Master Question Edit Screen**. The difference is: when you make the question “**Inactive**” (by not checking the **Active** checkbox) within a test, the Master Question itself is not affected. This checkbox is typically used when a question is no longer needed for this particular test. Since you cannot delete a question once it has been used, you will have to “**inactivate**” the question so that it will not become available for future usage. Note that if a question has become obsolete, it should be “**inactivated**” at the Master Question level.

The screenshot displays the 'CERTIFICATION - STARTER - EDIT QUESTION' interface. At the top, there are navigation tabs: 'Browse', 'Test Type', 'Sections', and 'Questions'. Below the title bar, the question details are shown: 'Master Question ID: 913.7', 'Rev: 913.7', 'Last Modified: 4/20/2012 8:59:55 AM by swimjim1', and 'Section: Rules&Regs:102.12-Starter'. The question text is 'Where shall the Starter stand to start a race?'. Below the question text are four checkboxes: 'Active' (checked), 'Randomize Answers' (checked), 'Paper Question' (checked), and 'Always Use Question' (unchecked). The 'ANSWER CHOICES' section is located below the question text. It includes a 'Correct Answer' field with the text 'The Starter shall stand on the side of the pool within approximately five meters of the starting end of the pool.' and four 'Other Answer' fields with the following texts: 'The Starter shall stand any place comfortable to the Starter.', 'The Starter shall stand twenty feet from the starting end of the pool.', and 'The Starter shall stand directly to the right of the backstroke flags.'. To the right of the answer choices, there is a radio button for 'None' and a checkbox for 'Always Display Last'.

Figure 40 – Starter Certification Test – EDIT QUESTION Part 1

**Randomize Answers** – This checkbox should be checked for all Officials test questions so that the system can randomize the order of the “**ANSWER CHOICES**” whenever a test is being generated. All Master Questions are designed to allow random generation of answers as governed by Rule Number 11 of the Editors Guidelines (2.4 above).

**Paper Question** – This checkbox allows the Editor to designate this particular test question as one of the paper questions when the user requested a printout of a paper test for clinic purposes or for test takers who cannot use a computer.

**QUESTION PART 2**

Question: There is one (1) correct reference for this question.

Randomize Question 2 Answers?:

Answer	Correct?
Answer 1: 102.12.1	<input checked="" type="checkbox"/>
Answer 2: 102.12.2.A	<input type="checkbox"/>
Answer 3: 102.12.2.B	<input type="checkbox"/>
Answer 4: 101.1.2.A	<input type="checkbox"/>
Answer 5: 101.1.2.C	<input type="checkbox"/>

Save Cancel

**Figure 41 – Starter Certification Test – EDIT QUESTION Part 2**

**Always Use Question** – This checkbox allows the Editor to designate the question as one of the questions that the system will always include in any test generated. Examples of “Always Use Questions” are those that are deemed to be fundamental “must know” knowledge that should be included in every test or important new rules from a new Rulebook that should be included for educational purposes (at least for the first year or two).

**Randomize Question 2 Answers** – This checkbox (Refer to Figure 41) should be checked for all Officials test questions so that the system can randomize the order of Part 2 answers (references).

When you finish editing the test question, click on the “**Save**” link at the lower left hand corner of the **EDIT QUESTION** screen. Alternately, if you decide to quit without saving, simply click on the “**Cancel**” link.

## 6 Online Test Reports – National Administrators

**OFFICIAL!** Home / Member Resources / Officials / Admin for Online Tests

**ONLINE TEST REPORTS**  
 Test Listing-who has taken test & results  
 Test Review - Allows to look at an individual test  
 Average Score Report

**AUTHORIZATION FORM**  
 LSC Officials Chair Request for LSC Official to Assist Test Admin Access

**ADMIN TRAINING MANUALS**

**ONLINE TEST REPORT-NTL ADMIN**  
 Advanced Question Analysis  
 Question Analysis

Test Type	# Answers To Pass	# Sections	# Questions	# Times Taken	Status	Last Modified	Options
Certification - Administrative	80	31	99	3088	Active	5/8/2012	
Certification - Clerk of Course	60	7	78	4623	Active	4/30/2012	
Certification - Open Water Judge	64	10	66	109	Active	10/18/2012	
Certification - Open Water Referee	64	10	82	74	Active	10/18/2012	
Certification - Referee	80	46	148	3794	Active	5/4/2012	

**Test Analysis Reports available to Test Editors**

Figure 42 – Online Test Reports – National Administrators

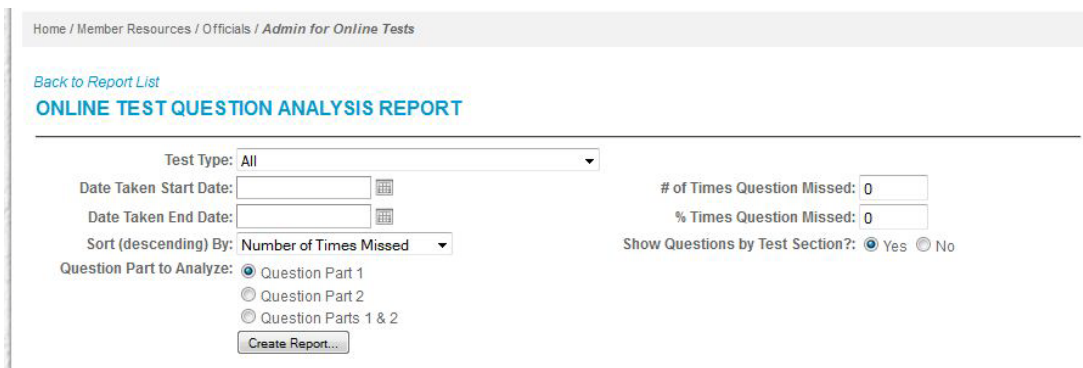
The Online Test System provides a powerful test analysis capability that allows the Online Test Subcommittee members to review the “missed” rate of the various tests and questions periodically. This will provide the data to evaluate whether a test question may not be clear enough or certain rules may not be understood by a majority of the Officials who took the tests. This question analysis feature is accessible under the “**ONLINE TEST REPORT-NTL ADMIN**” heading of the “**Admin for Online Tests**” main screen as shown in Figure 42. Please note that this is not the same as the “**ONLINE TEST REPORTS**” shown at the top of the screen. Those test reports are available to all LSC Officials Chairs and their designated Administrators allowing them to look at test results and other statistics of test scores, etc.

The **ONLINE TEST REPORTS** will not be discussed in this Manual since it is not used by the Test Editors in their normal activities when maintaining the Online Test questions.

Note that under the “**ONLINE TEST REPORT-NTL ADMIN**” heading, there are two links: “*Advanced Question Analysis*” and “*Question Analysis*”. We will look at each separately in more detail.

## 6.1 Question Analysis

When you click on the *Question Analysis* link, you will see the screen as shown in Figure 43.

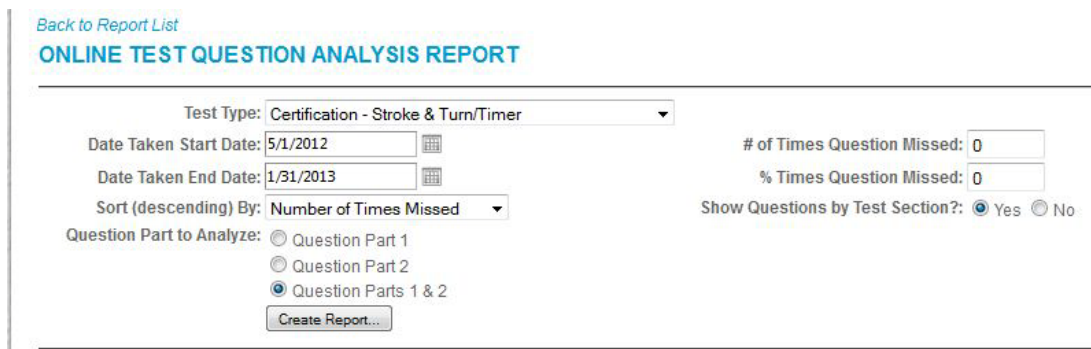


The screenshot shows the 'ONLINE TEST QUESTION ANALYSIS REPORT' form. At the top, there is a breadcrumb trail: 'Home / Member Resources / Officials / Admin for Online Tests'. Below this is a link 'Back to Report List'. The form title is 'ONLINE TEST QUESTION ANALYSIS REPORT'. The form contains several input fields and controls: 'Test Type' is a dropdown menu set to 'All'; 'Date Taken Start Date' and 'Date Taken End Date' are date pickers; 'Sort (descending) By' is a dropdown menu set to 'Number of Times Missed'; 'Question Part to Analyze' has three radio buttons: 'Question Part 1' (selected), 'Question Part 2', and 'Question Parts 1 & 2'; '# of Times Question Missed' and '% Times Question Missed' are numeric input fields, both set to '0'; 'Show Questions by Test Section?' has two radio buttons: 'Yes' (selected) and 'No'; and a 'Create Report...' button.

Figure 43 – Question Analysis Report

You can filter your report by Test Type, Date Range, and other criteria such as number of times the question was missed or percentage of times the question was missed. You can also set up the report to analyze Part 1 only, Part 2 only, or both. Finally, you can format the report by sorting the results by the number of times missed, the number of times answered, or the number of times correct. You have the option to show the questions by test sections.

Let's go through an example using this report.



The screenshot shows the 'ONLINE TEST QUESTION ANALYSIS REPORT' form with search criteria applied. The breadcrumb trail is 'Home / Member Resources / Officials / Admin for Online Tests'. Below this is a link 'Back to Report List'. The form title is 'ONLINE TEST QUESTION ANALYSIS REPORT'. The form contains several input fields and controls: 'Test Type' is a dropdown menu set to 'Certification - Stroke & Turn/Timer'; 'Date Taken Start Date' is a date picker set to '5/1/2012'; 'Date Taken End Date' is a date picker set to '1/31/2013'; 'Sort (descending) By' is a dropdown menu set to 'Number of Times Missed'; 'Question Part to Analyze' has three radio buttons: 'Question Part 1', 'Question Part 2', and 'Question Parts 1 & 2' (selected); '# of Times Question Missed' and '% Times Question Missed' are numeric input fields, both set to '0'; 'Show Questions by Test Section?' has two radio buttons: 'Yes' (selected) and 'No'; and a 'Create Report...' button.

Figure 44 – Question Analysis Report Example – Search Setup

Refer to Figure 44. We have decided to review the Stroke & Turn/Timer Certification Tests that were taken from 5/1/2012 (when the updated Online Tests were rolled out) to 1/31/2013. We are interested in looking at both Part 1 and Part 2 results. We will sort the results by the “**Number of Times Missed**” to see which were the most missed questions.



Figure 45 shows the report when we click the “**Create Report...**” button.

REPORT

Output Type: Adobe PDF [Change](#)

Question	Times Answered	Times Correct	Times Missed	% Missed
<b>Test Type: Certification - Stroke &amp; Turn/Timer</b> <b>Section: Rules&amp;Regs: 101.5-Freestyle; 102.24-Timing Rules</b> 404.11    How do we judge a swimmer who elects to swim the butterfly or any other stroke during a freestyle event?	2713	1636	1077	40%
<b>Test Type: Certification - Stroke &amp; Turn/Timer</b> <b>Section: Rules&amp;Regs: 101.6 Individual Medley; 101.4-Back</b> 1350.2    In the individual medley, when changing from backstroke to breaststroke, what is the position of the body when the swimmer touches the wall?	2700	1866	834	31%
<b>Test Type: Certification - Stroke &amp; Turn/Timer</b> <b>Section: Rules&amp;Regs: 101.7-Relays; 101.4-Backstroke</b> 416.8    In the freestyle relay what style or strokes may each swimmer use for his portion of the swim?	2713	1982	731	27%
<b>Test Type: Certification - Stroke &amp; Turn/Timer</b> <b>Section: Rules&amp;Regs: 502 - Membership</b> 1499.2    All non-athlete members of USA Swimming must have satisfactorily completed which of the following as required by USA Swimming?	2713	2475	238	09%
<b>Test Type: Certification - Stroke &amp; Turn/Timer</b> <b>Section: Rules&amp;Regs: Glossary</b>				

Figure 45 – Question Analysis Report Example – Report

Note that Master Question 404.11 has a 40% missed rate. This question warrants a closer look to see if the high missed rate was due to the question and answers itself or if it is something that most Stroke and Turn Officials are unfamiliar with.

Although the “Question Analysis” function allows us a quick analysis, we often need additional information and other sorting capabilities to make the review task easier. This is where the “Advanced Question Analysis” comes in.

## 6.2 Advanced Question Analysis

When you click on the “*Advance Question Analysis*” link, you will see a screen as shown in Figure 46 below.

Back to Report List  
**ONLINE TEST QUESTION ADVANCED ANALYSIS REPORT**

Test Type: All

Date Taken Start Date: [calendar icon]

Date Taken End Date: [calendar icon]

% Times Question Missed Greater Than: 0

Show Questions by Test Question/Section?:  Yes  No

Sort By: % Missed then by: Section then by: Test Type then by: [dropdown]

Sort By dropdown menu options:  
Question ID  
Test Type  
Section  
% Missed  
Question  
Missed Answer Count  
Missed Part 1  
Missed Part 2

Create Report...

**Figure 46 – Advanced Question Analysis Report**

The main difference between the “**Question Analysis Report**” and “**Advanced Question Analysis Report**” is the expanded sorting capability and the capability of the user to enter a “**% Times Question Missed Greater Than**” number as a search criteria.

As for the expanded sorting capability, there are four levels of sorting and each one has eight “**Sort By**” criteria as shown in Figure 46.

Let’s go over an example to demonstrate the **Advanced Question Analysis Report**.

Suppose we want to review last year’s Referee Re-Certification Tests to find out which questions are missed by most Officials taking the test.

Back to Report List  
**ONLINE TEST QUESTION ADVANCED ANALYSIS REPORT**

Test Type: Re-Certification - Referee

Date Taken Start Date: 5/1/2012 [calendar icon]

Date Taken End Date: 1/31/2013 [calendar icon]

% Times Question Missed Greater Than: 0

Show Questions by Test Question/Section?:  Yes  No

Sort By: % Missed then by: Section then by: Test Type then by: [dropdown]

Create Report...

**Figure 47 – Advanced Question Analysis Report – Example Search Setup**

Figure 47 shows the report setup fields we would enter to get the report we would like to see. When the “**Create Report...**” button is clicked, Figure 48 will appear showing the results.

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Note that Master Question 255.7 has an 89% missed rate. This is unusually high especially when the tests are taken by experienced Officials (this is a Recertification test). The Report also indicated that practically all the misses were in Part 1. This tells us that something may be wrong with the question or answers in Part 1. Indeed, an Official who has taken the Timing Judge Certification Test on 1/17/2013 alerted us that this Master Question may have an error in it when this Official compared the answers to the Rulebook after getting an “incorrect answer” result from the system Online Test Review. We did an investigation and discovered that indeed we have selected one of the “incorrect” answers as the “correct answer”. This question has since been corrected. However, if a midyear question analysis was performed approximately 6 months after the updated questions were rolled out, this error would have been caught and would be corrected a lot sooner. This real life example demonstrates the importance of the question analysis capability of the Online Test System.

[Back to Report List](#)

## ONLINE TEST QUESTION ADVANCED ANALYSIS REPORT

Test Type:

Date Taken Start Date:

Date Taken End Date:

% Times Question Missed Greater Than:

Show Questions by Test Question/Section?:  Yes  No

Sort By:  then by:  then by:  then by:

---

### REPORT

Output Type:  [Change](#)

1 / 9 55% Sign Find

**Online Test Question Advanced Analysis** 01/30/2013 18:36:37

Params: Test Type: Re-Certification - Referee  
 Date Range: 5/1/2012 to 1/31/2013 % Times Question Missed Greater Than: 0%  
 Sort Sequence: % Missed, Section, Test Type

Question	Test Type	Test Section	Times Answered	Part1 Missed	Part2 Missed	Times Missed
255.7 When automatic equipment is used, what is an indication that there may be a potential malfunction?	Re-Certification - Referee	Rules&Regs:102.24-Timing Rules	256	226 / 88%	5 / 2%	229 / 89%
467.17 In a meet where a combination of preliminary and final events and timed finals are scheduled, an athlete plans on competing in one individual timed final event and several other individual preliminary and final events in one day. What is the maximum number of individual preliminary and final events in which this swimmer may compete in for that day?	Re-Certification - Referee	Rules&Regs:102.2-General Rules	286	203 / 71%	43 / 15%	205 / 72%
1506.1 Which of the following is considered a violation of the USA Swimming Code of Conduct regarding recruiting?	Re-Certification - Referee	Rules&Regs:304-Code of Conduct	136	75 / 55%	3 / 2%	76 / 56%
1376.2 As the Starter gives the "Take your mark" command and the starting signal is given, the Referee is distracted and misses observing the start of the race. The Starter then approaches and reports a possible disqualification in Lane 4 for a false start. What protocol should the Referee follow?	Re-Certification - Referee	Rules&Regs:101.1-Starts	385	1 / 0%	192 / 50%	193 / 50%
687.4 In preliminaries and finals events, where there are 34 swimmers in a 6-lane pool and with the lanes set up from right to left as the swimmers stand facing the course, what is the heat-lane assignment of the swimmer with the 4th fastest entry time?	Re-Certification - Referee	Rules&Regs:102.5-Lanes/Seeding/Swimoffs/Heats	313	84 / 27%	59 / 19%	108 / 35%
688.5 In preliminaries and finals events, where there are 34 swimmers in a 6-lane pool and with the lanes set up from right to left as the swimmers stand facing the course, what is the heat-lane assignment of the swimmer with the 20th fastest entry time?	Re-Certification - Referee	Rules&Regs:102.5-Lanes/Seeding/Swimoffs/Heats	306	98 / 32%	8 / 3%	101 / 33%

Figure 48 – Advanced Question Analysis Report Example – Report

## 6.3 Annual Question Analysis Process

Although the Advanced Question Analysis function has powerful filtering and sorting capabilities, it does have some shortcomings when using it to perform the first step of the Annual Online Test Updating Process. This is because the question analysis is performed on the historical data of the **Tests** while the Annual Online Test Updating Process starts at the **Master Questions** review which is best performed at the **Category** level because of the shared usage of the Master Questions by various Tests. What we need is the addition of a “**Master Question Category**” field as one of the search criteria (drop-down menu) as well as one of the “**Sort by**” drop-down menu items. We are planning to add this capability as one of the future software enhancement requests. Until such request is approved and implemented, we will have to manually “link” the report results (the Master Question ID) to the corresponding Category and also identify all the tests this particular Master Question is used in. Below is a description of this “workaround” process.

We will first setup the Report criteria as shown in Figure 49.

Note that the “Test Type” is set to “All” (to cover all tests that use the same Master Questions) and the Date Range is set to 5/1/2012 to 1/31/2013 (the first day after the last updates to 1/31/2013). We are interested in questions that have a missed rate of greater than 25% (where 1 out of 4 test takers failed to answer it correctly). The “Show Questions By Test Question/Section” setting does not matter here since the Section Headings only show up when you create a report on a single Test Type (here we have selected “All”). Finally, we want to see the worst “missed” question first so we are sorting by “% Missed”, then by “Question ID”, and

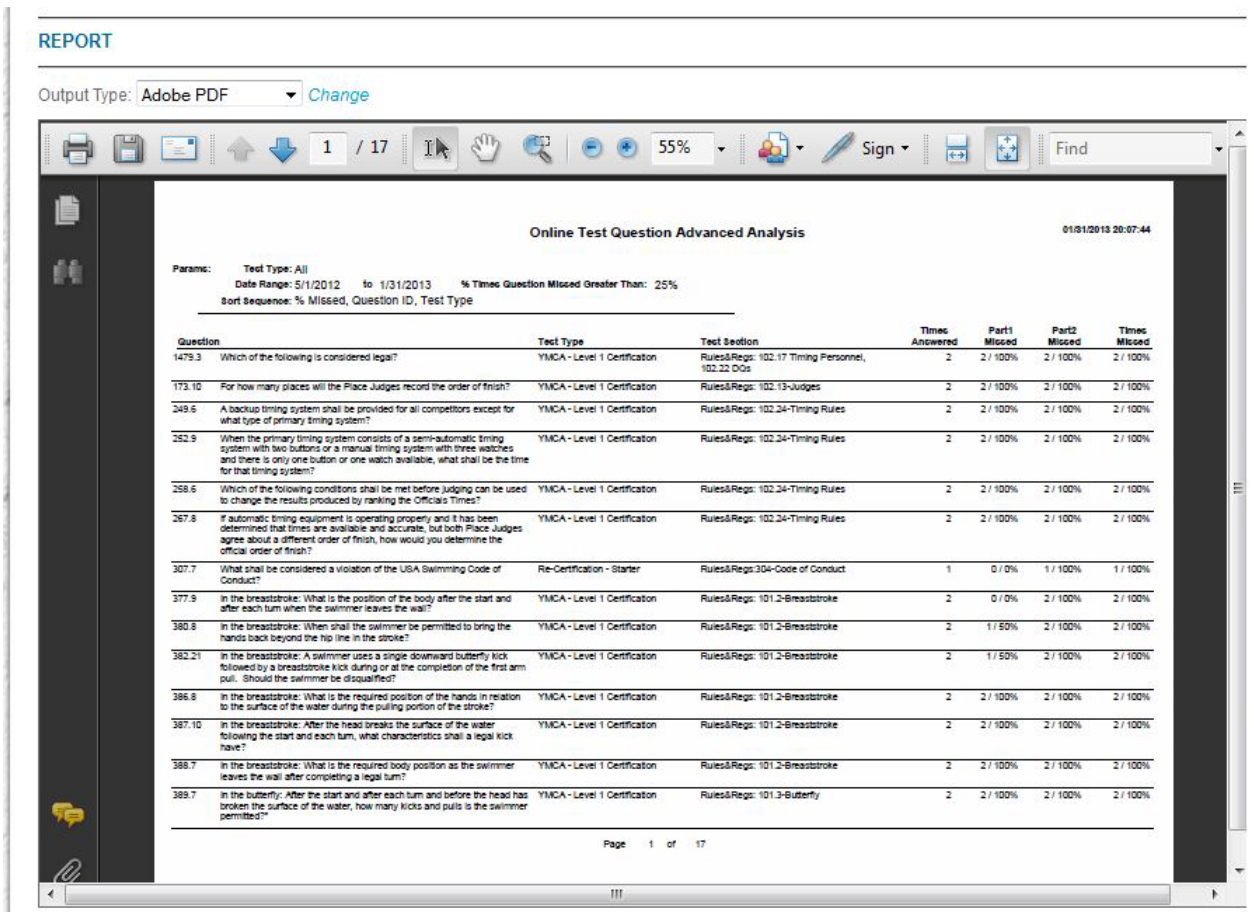
The screenshot shows a web form titled "ONLINE TEST QUESTION ADVANCED ANALYSIS REPORT". At the top left, there is a link "Back to Report List". The form contains several input fields and a button:

- Test Type:** A dropdown menu set to "All".
- Date Taken Start Date:** A date input field set to "5/1/2012".
- Date Taken End Date:** A date input field set to "1/31/2013".
- % Times Question Missed Greater Than:** A text input field set to "25".
- Show Questions by Test Question/Section?:** Radio buttons for "Yes" (selected) and "No".
- Sort By:** A series of dropdown menus: "% Missed", "then by: Question ID", "then by: Test Type", and an empty dropdown.
- Create Report...:** A button at the bottom of the form.

Figure 49 – Example of Annual Question Analysis Report Setup

then by “Test Type”.

When the “Create Report” button is clicked, Figure 50 will appear.



**Figure 50 – Example of Annual Question Analysis – Report**

Next, we need to export this report to an Excel file so that we can add the Master Question Category column to identify the responsible Test Editor for that Category. This is done by changing the “Output Type” to “Export to Excel” using the drop-down menu. A pop-up window will be displayed allowing you to open or save the report file in Excel format as shown in Figure 51.

Note that this pop-up window is from within Firefox web browser. Your pop-up window may look different (or may not even have a pop-up window as in the case of the Chrome web browser which would prompt you to save the file in the lower left hand corner of the main window.) You can either save the file by renaming it to something more descriptive than the default “ReportHolder.aspx” or click “OK” to open the file in your own Excel application and then save it with a different name.



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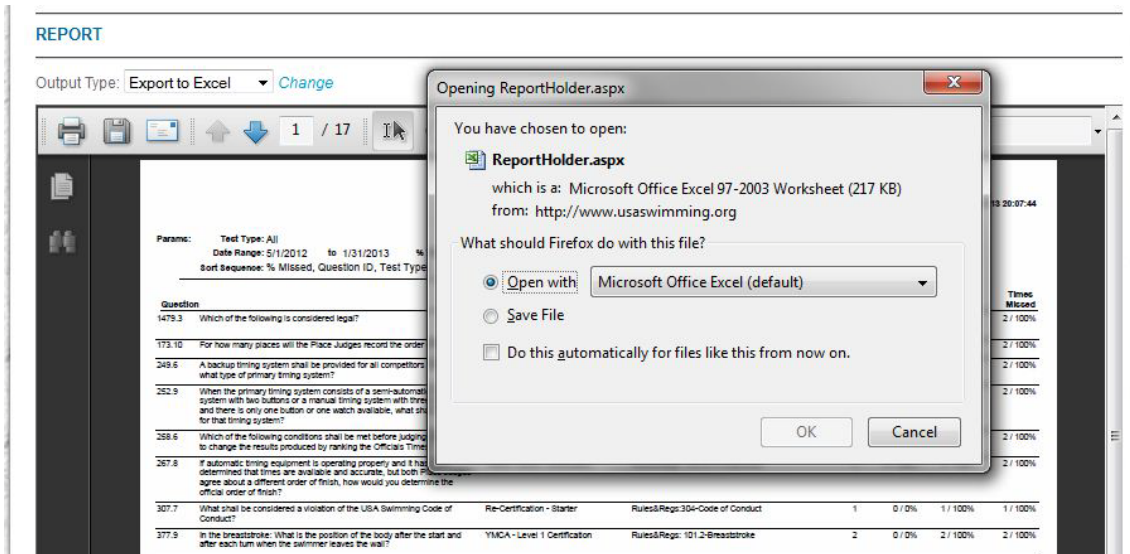


Figure 51 – Export to Excel File

When you open the file in Excel, it should look something like Figure 52.

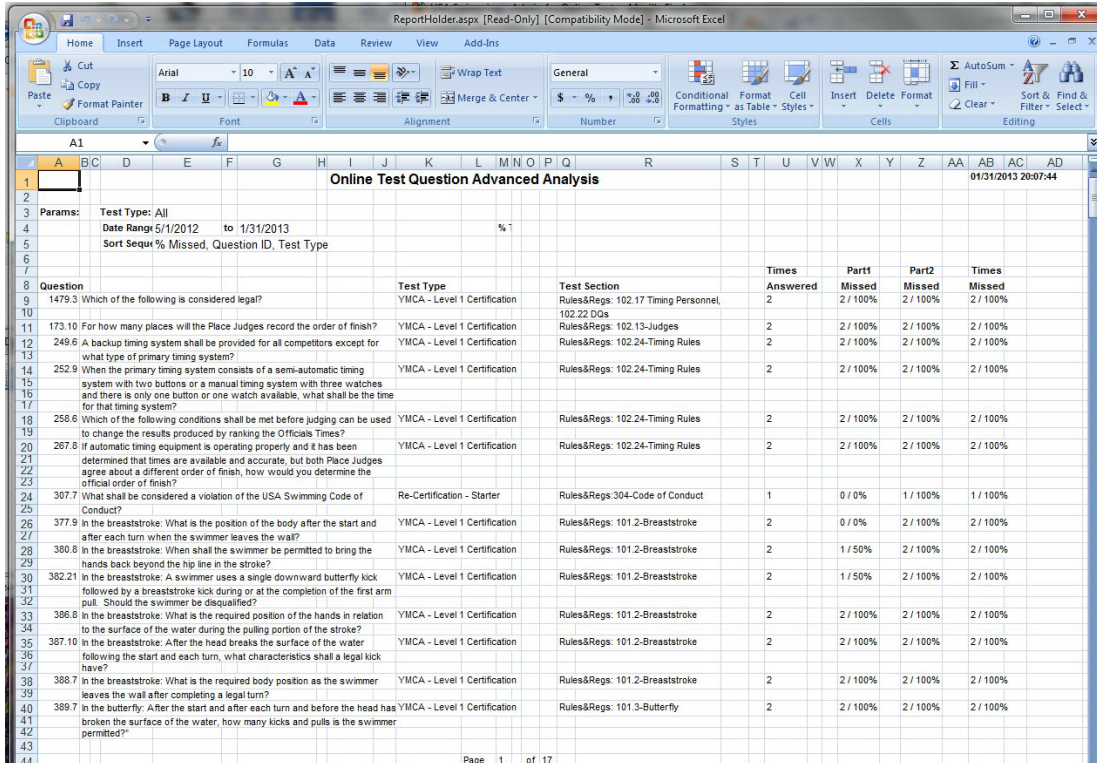


Figure 52 – Open Excel File

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Now you can go ahead and insert a “Category” column and enter the Category number corresponding to each Master Question ID. Then you can sort by Category before sending the file to the Test Editors for their analysis.

We will now go over this Excel file conversion process step-by-step using this report.

Before we start our example, there is one additional comment on this particular Report. You can see there are quite a number of 100% misses in the first several pages. However, all of these questions were only answered 2 times in the past 9 months. It is possible that these incorrect answers were results of one of our Test Editors performing a “test” on this Test. Anyway, the sample size is too small to be considered valid. The responsible Test Editors who are more familiar with the particular test should determine the proper sample size. For this example, we will discard all test questions that have been answered 10 or less times within this 9-month period except for Open Water test questions and Master Swimming test questions.

When we scroll down to about page 4 of the Report (Figure 53), we can see questions with much larger sample size which is a better representation of the population.

Question	Test Type	Test Section	Times Answered	Missed	Part1 Missed	Part2 Missed	Times Missed
168 169 170 171 172 173 174	255.7 When automatic equipment is used, what is an indication that there may be a potential malfunction?	Re-Certification - Referee	Rules&Regs:102.24-Timing Rules	256	226 / 88%	5 / 2%	229 / 89%
175 176 177	255.7 When automatic equipment is used, what is an indication that there may be a potential malfunction?	Certification - Timing Judge	Rules&Regs:102.24-Timing Rules	389	309 / 79%	9 / 2%	313 / 80%
178 179 180 181 182 183 184	1307.4 Which race Official(s) ensure that any violations are recorded and reported or indicated to the Referee?	Certification - Open Water Referee	Rules&Regs: 701.7 to 701.23-Meet Personnel	9	6 / 67%	2 / 22%	7 / 78%
185 186 187 188 189 190 191 192	255.7 When automatic equipment is used, what is an indication that there may be a potential malfunction?	Re-Certification - Timing Judge	Rules&Regs:102.24-Timing Rules	27	21 / 78%	0 / 0%	21 / 78%
193 194 195 196 197	467.17 In a meet where a combination of preliminary and final events and timed finals are scheduled, an athlete plans on competing in one individual timed final event and several other individual preliminary and final events in one day. What is the maximum number of individual preliminary and final events in which this swimmer may compete in for that day?	Certification - Administrative	Rules&Regs: 102.2 - Entries	210	156 / 74%	41 / 20%	161 / 77%
198 199 200 201 202 203 204 205 206	617.13 Under what circumstance would a swimmer, who declares to the Referee their intention not to compete before the start of their event, be disqualified but not penalized for "failure to compete"?	Certification - Referee	Rules&Regs:207.11-Administrative Proc	4	3 / 75%	1 / 25%	3 / 75%
	467.17 In a meet where a combination of preliminary and final events and timed finals are scheduled, an athlete plans on competing in one individual timed final event and several other individual preliminary and final events in one day. What is the maximum number of individual preliminary and final events in which this swimmer may compete in for that day?	Certification - Clerk of Course	Rules&Regs: 102.2-General Rules	462	331 / 72%	77 / 17%	339 / 73%
	467.17 In a meet where a combination of preliminary and final events and timed finals are scheduled, an athlete plans on competing in one individual timed final event and several other individual preliminary and final events in one day. What is the maximum number of individual preliminary and final events in which this swimmer may compete in for that day?	Re-Certification - Referee	Rules&Regs:102.2-General Rules	286	203 / 71%	43 / 15%	205 / 72%
	307.7 What shall be considered a violation of the USA Swimming Code of Conduct?	Certification - Starter	Rules&Regs:304-Code of Conduct	10	0 / 0%	7 / 70%	7 / 70%
	307.7 What shall be considered a violation of the USA Swimming Code of Conduct?	Certification - Administrative	Rules&Regs: 304 - Code of Conduct	3	0 / 0%	2 / 67%	2 / 67%
	467.17 In a meet where a combination of preliminary and final events and timed finals are scheduled, an athlete plans on competing in one individual timed final event and several other individual preliminary and final events in one day. What is the maximum number of individual preliminary and final events in which this swimmer may compete in for that day?	Re-Certification - Clerk of Course	Rules&Regs:102.2 - General Rules	108	70 / 65%	9 / 8%	70 / 65%

Figure 53 – Excel File with better samples

Now let’s go over the Excel file reformatting steps:

Step 1 – Insert a “Category” column in front of the Question ID column.

Step 2 – Delete all extra columns leaving only the ID, Test Type, Times Answered, Part 1 Missed, Part 2 Missed, and Times Missed columns.

Step 3 – Remove all rows on top of the headers leaving just one row to put the title of the report and the date range.

Step 4 – Select the data range starting at the “header rows” (the one with the titles for each column) to the last row of the report. Set the sorting criteria to sort on Question ID and perform the data sort.

Step 5 – Now you can delete all the rows that do not have a Question ID number (they should be at the bottom of the sort results).

The screenshot shows the 'Master Question Search' interface. At the top, there are tabs for 'Master Questions' and 'Master Question Categories'. The main heading is 'MASTER QUESTION SEARCH' with a link 'Add Test Master Question' on the right. The search form includes: 'Master Question ID' (text input with '175'), 'Test Type' (dropdown with '--All--'), 'Category' (dropdown with '--All--'), 'Active?' (checkboxes for 'No' and 'Yes', with 'Yes' selected), and a 'Question' text area. Below the form is a 'Sort By' dropdown set to 'Master Question ID' and a 'Then B' dropdown. There are 'Search' and 'Create Report' buttons. The search results section shows 'SEARCH RESULTS: 1 QUESTIONS FOUND'. A table displays the results with columns: ID.Rev, Category, Question, Status, Tests Used in, and Options. One result is shown for ID 175.8, Category 'Officials-Admin Ref', and a question about a 14-year-old swimmer. A yellow callout bubble points to the '175' in the ID field with the text 'Enter Master Question ID to search'. Another yellow callout bubble points to the 'Officials-Admin Ref' category with the text 'Copy Category name from here and paste to the spreadsheet column 1'.

ID.Rev	Category	Question	Status	Tests Used in	Options
175.8	Officials-Admin Ref	Will a 14 year-old swimmer who is swimming in a senior competition be able to set an age group record?	Active		

Figure 54 – Master Question Category Identification

Step 6 – You can now go into the Admin for Online Test and use the Master Question Search screen to find the Master Question Category for each Question ID. Figure 54 shows an example of how to determine the Category for Question ID 175. Once the question shows up in the Search Results, simply “Copy” and “Paste” the Category name to the corresponding cell in the spreadsheet.



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Step 7 – When you have entered all the Category names to the first column, your Excel spreadsheet should look like Figure 55. Note that you can “Copy” and “Paste” the Category names from one cell to another when the same Master Question ID shows up in more than one row (each has a different Test Type.)

	A	B	C	D	E	F	G
1	<b>Online Test Question Advanced Analysis (5/1/2012 - 1/31/2013)</b>			01/31/2013 20:07:44			
2	<b>Category</b>	<b>MQ ID</b>	<b>Test Type</b>	<b>Times Answered</b>	<b>Part 1 Missed</b>	<b>Part 2 Missed</b>	<b>Times Missed</b>
3	Officials-Admin Ref	138.11	Certification - Administrative	314	27 / 9%	78 / 25%	95 / 30%
4	Officials-Timing Judge	159.7	Foundations of Coaching	3277	966 / 29%	0 / 0%	966 / 29%
5	Officials-Admin Ref	175.8	Re-Certification - Referee	385	66 / 17%	53 / 14%	110 / 29%
6	Officials-Admin Ref	175.8	Certification - Administrative	241	79 / 33%	48 / 20%	110 / 46%
7	Officials-Admin Ref	175.8	Re-Certification - Administrative	23	3 / 13%	7 / 30%	9 / 39%
8	Officials-Admin Ref	177.7	Foundations of Coaching	2058	607 / 29%	0 / 0%	607 / 29%
9	Officials-Timing Judge	255.7	Re-Certification - Timing Judge	27	21 / 78%	0 / 0%	21 / 78%
10	Officials-Timing Judge	255.7	Re-Certification - Referee	256	226 / 88%	5 / 2%	229 / 89%
11	Officials-Timing Judge	255.7	Certification - Timing Judge	389	309 / 79%	9 / 2%	313 / 80%
12	Officials-Timing Judge	256.5	Certification - Timing Judge	425	19 / 4%	102 / 24%	108 / 25%
13	Officials-Timing Judge	260.9	Certification - Timing Judge	425	126 / 30%	117 / 28%	186 / 44%
14	Officials-Timing Judge	260.9	Re-Certification - Timing Judge	51	21 / 41%	10 / 20%	23 / 45%
15	Officials-Timing Judge	261.6	Re-Certification - Timing Judge	56	14 / 25%	8 / 14%	18 / 32%
16	Officials-Timing Judge	261.6	Certification - Timing Judge	425	155 / 36%	96 / 23%	192 / 45%
17	Officials-Timing Judge	267.8	Re-Certification - Timing Judge	36	4 / 11%	12 / 33%	13 / 36%
18	Officials-Timing Judge	267.8	Certification - Timing Judge	406	71 / 17%	153 / 38%	156 / 38%
19	Officials-Starter	292.7	Certification - Starter	734	24 / 3%	226 / 31%	232 / 32%
20	Officials-Starter	292.7	Foundations of Coaching	2108	545 / 26%	0 / 0%	545 / 26%
21	Officials-Clerk	299.9	Foundations of Coaching	2500	622 / 25%	0 / 0%	622 / 25%
22	Officials-Clerk	306.5	Certification - Clerk of Course	462	115 / 25%	126 / 27%	130 / 28%
23	Officials-Clerk	306.5	Foundations of Coaching	2626	721 / 27%	0 / 0%	721 / 27%
24	Officials-Starter	309.7	Foundations of Coaching	2154	838 / 39%	0 / 0%	838 / 39%
25	Officials-Starter	336.10	Re-Certification - Starter	367	41 / 11%	158 / 43%	168 / 46%
26	Officials-Starter	336.10	Certification - Starter	734	81 / 11%	326 / 44%	350 / 48%
27	Officials-Starter	339.8	Certification - Starter	691	9 / 1%	195 / 28%	198 / 29%
28	Officials-Starter	357.3	Foundations of Coaching	2695	723 / 27%	0 / 0%	723 / 27%
29	Officials-Starter	358.5	Foundations of Coaching	4142	1064 / 26%	0 / 0%	1064 / 26%
30	Officials-S&T-Breaststroke	381.14	Foundations of Coaching	2683	683 / 25%	0 / 0%	683 / 25%
31	Officials-S&T-Breaststroke	386.8	Foundations of Coaching	2674	854 / 32%	0 / 0%	854 / 32%
32	Officials-S&T-Butterfly	393.9	Re-Certification - Stroke & Turn/Timer	537	6 / 1%	133 / 25%	136 / 25%
33	Officials-S&T-Butterfly	393.9	Certification - Stroke & Turn/Timer	2732	40 / 1%	957 / 35%	975 / 36%
34	Officials-S&T-Butterfly	394.10	Re-Certification - Stroke & Turn/Timer	581	49 / 8%	162 / 28%	180 / 31%
35	Officials-S&T-Butterfly	394.10	Certification - Stroke & Turn/Timer	1836	195 / 11%	558 / 30%	621 / 34%

Figure 55 – Reformatted Excel File with Categories added

Step 8 – Now sort your newly formatted Excel file by Category and then by Master Question ID. Your spreadsheet should look like Figure 56. This is the finished product to be distributed to all the Test Editors to allow them to investigate all the test questions that have a “missed rate” of 25% or greater.

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	A	B	C	D	E	F	G
1	<b>Online Test Question Advanced Analysis (5/1/2012 - 1/31/2013)</b>			01/31/2013 20:07:44			
2	<b>Category</b>	<b>MQ ID</b>	<b>Test Type</b>	<b>Times Answered</b>	<b>Part 1 Missed</b>	<b>Part 2 Missed</b>	<b>Times Missed</b>
3	Coach-Evaluation	1240.2	Foundations of Coaching	2048	718 / 35%	0 / 0%	718 / 35%
4	Coach-Evaluation	1244.2	Foundations of Coaching	2105	565 / 27%	0 / 0%	565 / 27%
5	Coach-Evaluation	1247.3	Foundations of Coaching	2059	617 / 30%	0 / 0%	617 / 30%
6	Coach-Evaluation	1248.2	Foundations of Coaching	2083	1040 / 50%	0 / 0%	1040 / 50%
7	Coach-Evaluation	1249.2	Foundations of Coaching	2095	586 / 28%	0 / 0%	586 / 28%
8	Coach-Growth and Development	1227.1	Foundations of Coaching	1962	522 / 27%	0 / 0%	522 / 27%
9	Coach-Growth and Development	1231.1	Foundations of Coaching	1892	525 / 28%	0 / 0%	525 / 28%
10	Coach-Organization and Administration	1104.1	Foundations of Coaching	974	305 / 31%	0 / 0%	305 / 31%
11	Coach-Organization and Administration	1163.1	Foundations of Coaching	944	266 / 28%	0 / 0%	266 / 28%
12	Coach-Organization and Administration	1197.5	Foundations of Coaching	939	395 / 42%	0 / 0%	395 / 42%
13	Coach-Organization and Administration	1198.5	Foundations of Coaching	936	287 / 31%	0 / 0%	287 / 31%
14	Coach-Organization and Administration	1199.5	Foundations of Coaching	963	387 / 40%	0 / 0%	387 / 40%
15	Coach-Organization and Administration	1203.4	Foundations of Coaching	1316	346 / 26%	0 / 0%	346 / 26%
16	Coach-Organization and Administration	1206.4	Foundations of Coaching	1369	425 / 31%	0 / 0%	425 / 31%
17	Coach-Organization and Administration	1209.1	Foundations of Coaching	1398	360 / 26%	0 / 0%	360 / 26%
18	Coach-Organization and Administration	1214.4	Foundations of Coaching	1349	439 / 33%	0 / 0%	439 / 33%
19	Coach-Organization and Administration	1215.3	Foundations of Coaching	1414	457 / 32%	0 / 0%	457 / 32%
20	Coach-Organization and Administration	1406.1	Foundations of Coaching	963	382 / 40%	0 / 0%	382 / 40%
21	Coach-Philosophy and Ethics	1063.2	Foundations of Coaching	3085	1391 / 45%	0 / 0%	1391 / 45%
22	Coach-Philosophy and Ethics	1064.1	Foundations of Coaching	3112	948 / 30%	0 / 0%	948 / 30%
23	Coach-Physical Conditioning	1171.5	Foundations of Coaching	1081	269 / 25%	0 / 0%	269 / 25%
24	Coach-Physical Conditioning	1172.2	Foundations of Coaching	1019	324 / 32%	0 / 0%	324 / 32%
25	Coach-Physical Conditioning	1174.1	Foundations of Coaching	1033	266 / 26%	0 / 0%	266 / 26%
26	Coach-Physical Conditioning	1183.1	Foundations of Coaching	997	433 / 43%	0 / 0%	433 / 43%
27	Coach-Physical Conditioning	1188.1	Foundations of Coaching	1039	317 / 31%	0 / 0%	317 / 31%
28	Coach-Physical Conditioning	1250.4	Foundations of Coaching	3799	1225 / 32%	0 / 0%	1225 / 32%
29	Coach-Physical Conditioning	1251.2	Foundations of Coaching	3784	1210 / 32%	0 / 0%	1210 / 32%
30	Coach-Physical Conditioning	1252.2	Foundations of Coaching	3799	1202 / 32%	0 / 0%	1202 / 32%
31	Coach-Physical Conditioning	1256.2	Foundations of Coaching	3809	1213 / 32%	0 / 0%	1213 / 32%
32	Coach-Physical Conditioning	1259.1	Foundations of Coaching	3756	1138 / 30%	0 / 0%	1138 / 30%
33	Coach-Physical Conditioning	1269.1	Foundations of Coaching	1024	305 / 30%	0 / 0%	305 / 30%
34	Coach-Physical Conditioning	1273.1	Foundations of Coaching	1013	409 / 40%	0 / 0%	409 / 40%
35	Coach-Physical Conditioning	1274.1	Foundations of Coaching	1020	301 / 30%	0 / 0%	301 / 30%
36	Coach-Physical Conditioning	1275.1	Foundations of Coaching	1023	327 / 32%	0 / 0%	327 / 32%
37	Coach-Physical Conditioning	1276.3	Foundations of Coaching	1037	273 / 26%	0 / 0%	273 / 26%
38	Coach-Physical Conditioning	1279.1	Foundations of Coaching	1014	249 / 25%	0 / 0%	249 / 25%
39	Coach-Skills and Mechanics	1108.3	Foundations of Coaching	1619	463 / 29%	0 / 0%	463 / 29%
40	Coach-Skills and Mechanics	1116.3	Foundations of Coaching	1549	503 / 32%	0 / 0%	503 / 32%
41	Coach-Skills and Mechanics	1120.1	Foundations of Coaching	1617	402 / 25%	0 / 0%	402 / 25%

**Figure 56 – Reformatted Excel File sort by Master Question ID**

Step 9 – Each Test Editor should already have created a report of all the Master Questions (Refer to the Annual Online Test Update Guide) of the particular Category assigned to them. Using this report, the Test Editors can perform the rule change analysis, new question analysis, and the “problem question analysis” (based on this Excel spreadsheet) on their assigned Master Question Category to start the annual Online Test update process.

Continue on our example of analyzing Master Question 175.8, we found that 29% of the test takers missed this question when taking the Referee Recertification Test and 39% of the test takers missed this question when taking the Admin. Referee Recertification Test over the last 9 months. Further analysis revealed that the higher % of misses were on Part 2, the references, as indicated by the 30% misses in the Admin Ref Recertification tests. The Test Editor then looks for this question in the Admin Ref Category Search Report as shown in Figure 57 (the second search item.) Part 2 stated that there are two correct answers: 104.2.1.F(1) and 104.2.1.F. Upon further review, it appears that the other “incorrect answers” are obviously incorrect and should



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not have caused any confusion to the test takers. We should therefore examine the two correct answers a little closer.

The screenshot shows the 'MASTER QUESTION SEARCH' interface. At the top, there are navigation links for 'Master Questions' and 'Master Question Categories'. The search form includes fields for 'Master Question ID', 'Test Type' (set to '--All--'), 'Category' (set to 'Officials-Admin Ref'), 'Active?' (with 'Yes' selected), and a 'Question' text area. Below the form are 'Search' and 'Create Report' buttons. A yellow callout bubble points to the 'Create Report' button with the text 'Click Create Report'. Another yellow callout bubble points to the 'Category' dropdown with the text 'Enter Category to Search'. A third yellow callout bubble points to the 'Output Type' dropdown (set to 'Export to RTF') with the text 'Change Output Type to Export to RTF'. Below the search form is a toolbar with icons for printing, saving, and navigation, along with a zoom level of 52.2%. The main content area displays a preview of a report titled 'Online Test - Master Question Report: 52 Questions Reported'. The report shows three question entries with their details, including ID, Rev, Category, Status, and Part information. The first question (ID: 138.11) asks about points for 16th place. The second (ID: 175.8) asks about age group records. The third (ID: 177.7) asks about competition rules.

Figure 57 – Master Question Category Report

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Below is 104.2.1.F as stated in the 2013 Rulebook:

To be eligible for a record a swimmer must have won his/her heat. Only the time of the winner is recognized for record purposes even though another swimmer may have a faster time but is displaced by judge's or ballot decision. If the Judge's or ballot decision results in a tie, all tied swimmers shall share the faster time of such finish. The requirement to win the heat does not apply:

- (1) When age or representation is a condition for setting LSC or Age Group records;
- (2) To a U.S. citizen setting an American record in competition with non-U.S. citizens; or
- (3) When achieved as the lead-off leg in a relay race or at an initial distance.

The question asked, “*Will a 14-year old swimmer who is swimming in a senior competition be eligible to set an age group record?*” Part 2 stated that there are two correct references to this question. By process of elimination, the test taker should be able to select the remaining two references that are closely related to the correct answer. However, depending on how you interpret what constitutes a rule by paragraph number, different people may believe that the “best answer” is one of the two (as the test takers are instructed to select the best answer – not “all correct answers”.) One can argue that 104.2.1.F has already included all the subparagraphs (1), (2), and (3) so it is the “best” answer. On the other hand, someone else can also argue that 104.2.1.F(1) has to include whatever verbiage in the lead-in paragraph 104.2.1.F. When you look at the Rulebook, the paragraph in 104.2.1.F ends with a colon (:) indicating it cannot stand alone without considering the rest of the subparagraph (1), (2), and (3). Basically, any lawyer can mount a successful challenge claiming that either answer can be a correct answer all by itself without needing the other. Such ambiguity of “how to properly cite a rule section” should not be part of the Online Test as it can become a point of contention when the author of the question interprets them as two separate rules (104.2.1.F and 104.2.1.F(1)) while some test takers interpret them as one single rule. To avoid such confusion, the best solution is to use only one of them as the correct reference so there is no question about it. In this case, 104.2.1.F(1) would be a good choice as the ONLY correct reference. Answer 5: 104.2.1.F will need to be replaced by another “incorrect” reference.

The above example illustrated a question analysis process on a slightly complex issue using the system generated Question Analysis report. This is where most of the upfront effort would be spent by the responsible Editor on analyzing potential issues in Master Questions. The actual process of making the changes is more straightforward and has been made easier with the Master Question Search Report capability. By exporting the search results as RTF Output Type, the Test Editor can do the analysis, make recommended changes (such as above) directly on the file, and submit the file with the proposed changes to the Senior Editors for review and approval.

## 7 Appendix

### 7.1 Appendix 1 - List of Certification and Recertification Tests

1	Certification – Administrative
2	Certification – Clerk of Course
3	Certification – Open Water Judge
4	Certification – Open Water Referee
5	Certification – Referee
6	Certification – Starter
7	Certification – Stroke & Turn/Timer
8	Certification – Timer
9	Certification – Timing Judge
10	Foundation of Coaching
11	Re-Certification – Administrative
12	Re-Certification – Clerk of Course
13	Re-Certification – Referee
14	Re-Certification – Starter
15	Re-Certification – Stroke & Turn/Timer
16	Re-Certification – Timer
17	Re-Certification – Timing Judge
18	YMCA – Level 1 Certification
19	YMCA – Level 1 Re-Certification
20	YMCA – Level 2 Certification
21	YMCA – Level 2 Re-Certification

## 7.2 Appendix 2 – List of Master Question Categories

1	*** DO NOT USE ***
2	Coach-Dry
3	Coach-Evaluation
4	Coach-Growth and Development
5	Coach-Organization and Administration
6	Coach-Philosophy and Ethics
7	Coach-Physical Conditioning
8	Coach-Skills and Mechanics
9	Coach-Teaching and Communication
10	Coach-Wet
11	Officials-Admin Ref
12	Officials-Clerk
13	Officials-Disability Swimming
14	Officials-Master Swimming
15	Officials-Referee
16	Officials-S&T-Backstroke
17	Officials-S&T-Breaststroke
18	Officials-S&T-Butterfly
19	Officials-S&T-Freestyle
20	Officials-S&T-IM
21	Officials-S&T-Relays
22	Officials-S&T-Rules
23	Officials-Starter
24	Officials-Timer
25	Officials-Timing Judge
26	Open Water Conduct/Officiating the Competition
27	Open Water National Championships
28	Open Water Venue Standards
29	Privileges of Membership
30	Safety Training
31	Undefined
32	YMCA Questions