

FUTURE FELLOWS

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TBE Edition, Volume II

Meet Jeanne Crowell, CAS VP-Admissions

The implementation of Technology Based Exams (TBE) is fast approaching, with Exam 5 in May of 2018 to be the first CAS exam to be offered in the TBE format. We spoke to Jeanne Crowell, the new VP of Admissions, to learn more about how the process is going so far, how TBE will be used in the future, and what her goals are for her three-year position as VP.

Q: What was your CAS volunteer background before becoming VP Admissions?

A: After receiving my Fellowship I spent a number of years on various Admissions committees and task forces, including the Syllabus and Education Policy committees. After that I spent some time on other CAS committees such as the Committee on Volunteer Resources, the Trust Scholarship Committee, and the University Relations Committee. I continued to be involved in various Admissions-related task forces, so while I didn't have direct Admissions responsibilities for a number of years, I remained focused on CAS Admissions issues. I also had an increasing role with my employer in managing the actuarial student development program and stayed aware of exam changes and issues. In 2010 I joined the CAS Board of Directors for a three-year term, and after that I served on the Nominating Committee and the Leadership Development Committee. I am excited to be back in service for the CAS in Admissions.

Q: How is implementation going for TBE for Exam 5?

A: It's going very well! I am proud of our CAS staff members and volunteers who have put in hundreds of hours to ensure a smooth transition to Excel-based exams.

Q: What challenges have you encountered with implementation of TBE?

A: We are committed to producing a high quality product and ensuring a fair process for all candidates. With this in mind, I have found challenging the quantity of decisions and communications that are required. The TBE team meets regularly to evaluate and discuss our guidelines and communications, and we carefully review and edit each one to ensure that they say what we mean and don't imply something that we don't. For example, we decided to allow the use of a small desktop dry-erase board so candidates can think through a problem in writing before they begin typing the solution in the Excel file. This single decision created a myriad of questions to address: How to define what's acceptable? How to communicate these expectations? How to ensure there's no writing on it before the exam? How to ensure candidates don't write on it during a break? How to ensure candidates do not write notes to keep after the exam? What guidelines do proctors need so they know how to respond if these rules are broken? Every decision, large and small, must be clarified, worked out with the vendors, and communicated to our candidates and other interested parties.

Q: What has surprised you the most about implementation of TBE?

A: I was surprised at the lack of online chatter after we released the TBE Sample Exam and the Sample Solutions at the end of December. I expected to see more discussion on the examples of what taking the exam in Excel looks like.

Q: What have you heard from employers with respect to TBE?

A: We continue to maintain a healthy dialogue with employers about TBE. We first discussed TBE with the CAS Employers Advisory Council (EAC) in March 2017. It was important for us

TBE ONLINE RESOURCES

The TBE section of the CAS website, at casact.org/tbe, includes a number of resources for candidates preparing for an exam in the TBE format, including:

- Frequently Asked Questions
- Sample Exam
- Sample Solutions
- Practice Exam Session
- Excel Exam FAQ
- Technical Requirements
- Instructions for Scheduling Your Exam
- Remote Proctoring Introductory Video
- Exam Day Guidelines
- Examination Instructions

Have questions about TBE? Contact us at TBE@casact.org.



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to inform employers of our plans and get their feedback along the way. More recently, we provided an update to the EAC in early December. The EAC and other employers who have submitted emails to the TBE mailbox appear to be focused on working out how they can best support their actuarial candidates. For example, we have received questions about what types of exam setups might be acceptable and questions about IT requirements.

Q: As the CAS examination system continues to evolve, what do you think it will look like in five years?

A: I envision that all exams will be open-book and given in the TBE environment with possibly other tools at our disposal besides Excel. I anticipate fewer exam questions, with each one closely resembling actuarial work. For example, on Exam 5 candidates might be given a large data set and some background information, and they would be asked two large questions. One would be to do a reserving analysis, select an appropriate reserve, and write a reserve opinion to support the selection. The other would be to do a pricing analysis, select a rate change recommendation, and write a report to support the recommendation. I don't know if we would get there in five

years, but I expect we will move in that direction.

Q: What are your goals as VP-Admissions?

A: As a VP, I have goals that are similar to other CAS vice presidents: ensure the work of the CAS is accomplished while implementing the strategic direction put forth by the Board. This includes ensuring appropriate committee structures staffed with effective volunteers while working with the CAS staff to accomplish the normal tasks of the society while also developing new initiatives. The regular work of the Admissions committees include designing the syllabus, creating, administering, and grading exams, and ensuring two-way communications with candidates. New initiatives include the continued expansion of integrative questions on Fellowship exams, the development of the new Modern Actuarial Statistics exams, and the implementation of TBE. In addition, we are reviewing our syllabus against the new IAA syllabus, developing a job analysis, and evaluating other learning tools. Volunteers on the Admissions committees, and our CAS staff support, are highly engaged individuals who spend countless hours to ensure that our exams are carefully constructed, fairly graded, and appropriately communicated. I am privileged to work with this team! **ff**

Updates to Technology-Based Examination (TBE) FAQ

In the December 2017 issue of *Future Fellows*, we published an excerpt of the TBE FAQ, highlighting 20 of the most popular questions and answers. Since then, answers to two of the questions we published have been revised, so we are publishing the updated responses. The complete and most up-to-date FAQ is available in the TBE section of the CAS website. If you have a question that has not been addressed in the online FAQ, please send it to TBE@casact.org.

22. Q: Computer Requirement: I don't have a computer that is compatible with the TBE environment. Will the CAS provide one to me? (Updated March 1, 2018)

A: Candidates need to provide their own computer to take an exam in the TBE environment. The CAS will not provide computers to candidates. Candidates should carefully review the requirements described in a prior question.

23. Q: Ensuring an Appropriate Space: What are the requirements regarding the location where I plan to take the exam? (Updated January 24, 2018)

A: Identify a quiet area where you will be alone and not interrupted for the time necessary to check in for and take the exam. You should ensure you have a computer that meets the requirements, a steady internet connection, and a clear workspace. Additional guidelines are available in the CAS Exam Day Guidelines. **ff**



Opinion: Cheaters Gonna Cheat

By Agatha Caleo, Candidate Representative to the Candidate Liaison Committee

“I would prefer even to fail with honor than to win by cheating.” — Sophocles

One of the biggest issues candidates seem to have with TBE is the potential for cheating. In conversation after conversation with friends and colleagues, the same questions keep coming up: How will they prevent *this*? How can they keep people from doing *that*? I have to admit I am somewhat baffled by this phenomenon. This is the *last* thing I expected to be on people’s minds when they heard about TBE!

After all, actuaries are known for being highly ethical. The CAS has a Code of Professional Ethics for Candidates, by which we are all bound. If I adhere to that code, why should I suspect others of breaking it? When I was a high school teacher, I would tell all new students the same thing: “I trust you until you give me reason not to.” I would still catch them cheating, of course; high school students are terrible cheaters. They’re also *high school students*, and I’d like to think that most actuarial candidates are more mature with a better developed moral code than your average teenager.

But I know that it does happen, even in our profession. In fact, there was recently a small group of actuaries overheard talking about cheating on exams—in the presence of other actuaries! A pair of people discussed knowing that one of their colleagues was going to cheat on an upcoming exam. One man said he would definitely cheat on an exam if his job was at stake. He said he would cheat rather than put his mortgage and family at risk and that no code of ethics was going to stop him. I heard about this secondhand and am still appalled at the audacity of people who would speak so flippantly about cheating—in public, no less! If he did choose to cheat, what would this delinquent risk?

The punishments can be severe, as they are not limited to disqualification of the exam paper. The Examination Discipline Policy, which contains a list of examples of improper conduct, specifies that candidates caught cheating are subject to “consequences determined by the Vice President Admissions... [which] may include a temporary or permanent ban from sitting for CAS Examinations.”

If you’re working to attain your associateship, you are subject to the CAS Rules of Procedure for Disciplinary Actions Involving Candidates. If you’re an ACAS taking exams to attain Fellowship, you’re subject to the same disciplinary process as any other member, including review by the ABCD. Are you really going to risk a disciplinary hearing? The damage to your reputation? Your career?

Hopefully the answer is no. You’re an upstanding citizen of the actuarial community! You’re not going to write formulas on the bottom of your shoe or text a friend for help under the table.

But what about “micro-cheating”? No, I’m not talking about the latest dating buzzword (Google it). I’m talking about actions you may not immediately think of as cheating but in hindsight actually give you (or someone else) an unfair advantage on an exam. Even

if you didn’t do it with malicious intent, it still counts as cheating! This includes situations like:

- Katja takes the exam in the morning and struggles her way through a problem requiring Harwayne’s method. Later that day she tells Prem, who has yet to take the exam, “I should have studied more of those obscure complements of credibility.” Katja just gave Prem an unfair advantage on his exam because he can now focus his review on that topic before he takes it. She should not have spoken about the exam to anyone until after it was released to the public. (See examples of improper conduct #1 and #17 in the Examination Discipline Policy.)
- Terrence takes a bathroom break during the exam. On his way back to the exam room, his coworker Susan asks how his exam is going. Terrence says he’s really struggling with the Berquist-Sherman question. Susan reminds him that if you’re doing both the incurred and paid adjustments, there’s an additional step. With this small hint, he will be able to solve the problem. While he didn’t directly solicit this “consultation,” Terrence is still at fault as he should not have discussed the exam while outside the exam room. (See example of improper conduct #11.)

Both of these examples would count as cheating and subject you to the same disciplinary process as, say, manipulating the vendor software to allow you to search the Internet during the exam. More importantly, if you agree with Sophocles (see quote at the beginning of this article), you will want to make sure that you don’t engage in the above activities.

However, it’s the malicious cheating that my friends and colleagues seem to be most concerned about. As far as that goes...

I think that TBE will close more loopholes than it opens. If cheating is already happening, it’s happening in a paper-and-pencil environment, with a very large candidate-to-proctor ratio. TBE is going to shrink the candidate-to-proctor ratio significantly, and cheaters will have to adapt to the new technology. Whereas they are currently (much appreciated) volunteers, the more numerous proctors will now be professionally trained. And with TBE, rather than relying on witness accounts, CAS will have video, audio, and digital evidence to reference after the exam to help investigate accusations of cheating.

I don’t think anyone who wasn’t going to cheat before will suddenly decide to cheat now because they see a new opportunity to do so. It’s the same small group of unethical people who were already looking for ways to cheat with paper and pencil who will be looking for ways to cheat with TBE, but there will be more well-trained eyes on them and a permanent record of their actions, so they’ll have to work harder.

In the end, the benefits of TBE outweigh the risks. And isn’t risk what we’re all about? **ff**

CAS Revises Examination Discipline Policy

The Casualty Actuarial Society (CAS) Board of Directors has adopted a revised version of the CAS Examination Discipline Policy, effective with the Spring 2018 examination sitting. The policy, which is published in the CAS Syllabus of Examinations, provides examples of improper examination conduct and describes actions the CAS may take if a candidate violates any examination rules.

Revisions were made to the first paragraph of the full policy, which now reads:

Revised CAS Examination Discipline Policy

(adopted March 12, 2018)

Candidates must not give or receive assistance of any kind during the examination. Any cheating, attempt to cheat, assisting others to cheat, participating therein, or engaging in improper conduct such as noted in the CAS Examination Discipline Policy is a serious violation and will result in the CAS disqualifying the candidate's exam and additional consequences determined by the Vice President Admissions. This may include a temporary or permanent ban from sitting for CAS Examinations. Members of the CAS are also subject to the CAS investigative and discipline process, such as through the Actuarial Board for Counseling and Discipline (ABCD) or the Canadian Institute of Actuaries (CIA), for any violations of the CAS Code of Professional Conduct. Candidates have agreed in their applications for ex-

amination to be bound by the rules and regulations governing the examinations.

See the online CAS Syllabus of Examinations for the complete CAS Examination Discipline Policy.

During the exam registration process, candidates indicate their agreement with the following statement:

I have read the rules and regulations concerning the examination(s) for which I am applying and agree to be bound by them. I have read the CAS "Code of Professional Ethics for Candidates" and agree to be bound by it. I also agree that the results of any examination(s) which I take, and any action taken as a result of my conduct may, at the sole discretion of the Casualty Actuarial Society, be disclosed to any other bona fide actuarial organization that has a legitimate interest in such results and/or actions.

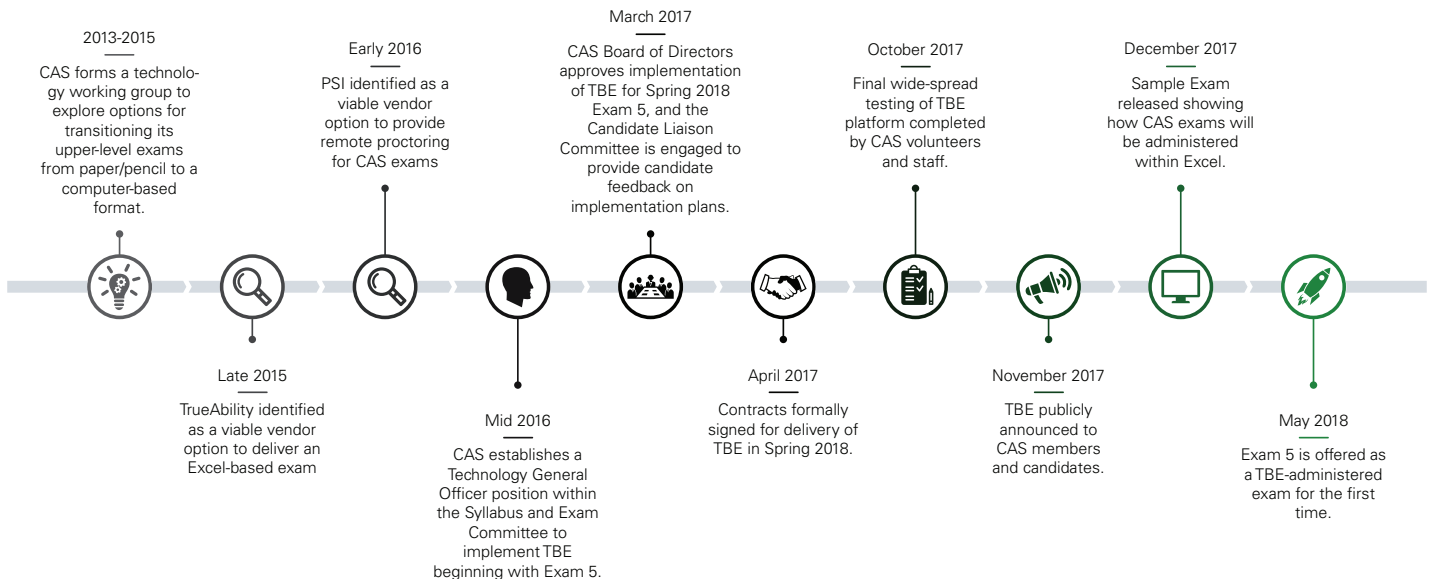
The Code of Professional Ethics for Candidates includes as Rule 4: "An actuarial candidate shall adhere to the CAS Policy on Examination Discipline." Therefore, by registering for a CAS exam, candidates agree to be bound by the policy.

As the revised policy is effective with the Spring 2018 exam sitting, candidates who registered for a spring exam and who do not agree with the revision may cancel their exam registration. The registration cancellation deadline is two weeks before the examination. Candidates who cancel by the deadline will receive a refund of the exam registration fee, minus a \$100 administrative fee. **ff**



Technology-Based Examination Timeline to TBE

While TBE was recently announced last November, the development timeline has spanned several years, with many milestones along the way.



From concept to execution, the development of TBE will span nearly five years and include contributions from hundreds of volunteer members and CAS staff.

Introducing PSI, Provider of CAS Remote Proctors

Since the CAS announced that it was transitioning its exams to the Technology-Based Examination (TBE) format, remote proctoring has gotten a lot of interest. While most people have used or are at least familiar with technologies like FaceTime and live online chatting, sitting for an exam using these kind of technologies is a novel concept. But not to PSI, the CAS remote proctoring vendor, which administers literally millions of tests. To help candidates better understand PSI and remote proctoring, we invited Heather Richards, Senior Director, Account Management for PSI Services, Certification, to introduce us to PSI.

Q. How long has PSI been in business? How long has PSI been administering remote proctoring?

A. PSI was founded in 1946 and has been providing a wide range of testing services for over 72 years. In 2013, we teamed up with Innovative Exams to offer a remote proctoring solution to the State of Illinois. The partnership worked so well that in 2015 we acquired Innovative Exams and officially entered the remote proctoring arena. We were excited to offer our clients the flexibility of anywhere, anytime testing and have continued to enhance and expand our remote proctoring services.

Q. For what other professional organizations and certifications have you proctored exams?

A. PSI administers over 13 million tests annually! We proctor exams for thousands of clients across a broad range of professions. Federal agencies like the TSA and FAA depend on us for secure test center administrations. Over 180 agencies turn to PSI for professional licensing exams such as real estate, cosmetology, and insurance. We offer unique testing solutions for 350+ certification programs in health care, finance, building trades, and many others. The IT certification market has recently taken notice of our innovative services, leading to contracts with companies like Adobe, ISACA and AWS.

Q. Where do your proctors work?

A. PSI's remote proctoring operations are headquartered in Olathe, Kansas (a suburb of Kansas City). We also have proctors working from our operations centers in Las Vegas and Davao, Philippines.

Q. What are the educational and experience requirements to become a PSI proctor?

A. PSI directly recruits, trains, and certifies all of our remote

proctors. A high school diploma is required at minimum, but most have a college degree or are working toward furthering their education. We prefer two years of proven customer service experience and strong communication skills. Working with computers, technical skills are obviously a must along with keen analytical skills that show they can identify and troubleshoot potential problems. Every proctor is carefully screened prior to employment, including a background check. PSI requires that proctors are not associated in any way with an examination or education program and that they (or family members) do not plan to take any of the exams. And as PSI continues to evolve and expand globally, so do our requirements. Being multilingual is a big plus for a proctor and we recently added several Japanese-speaking proctors to our team to accommodate client needs in Japan.

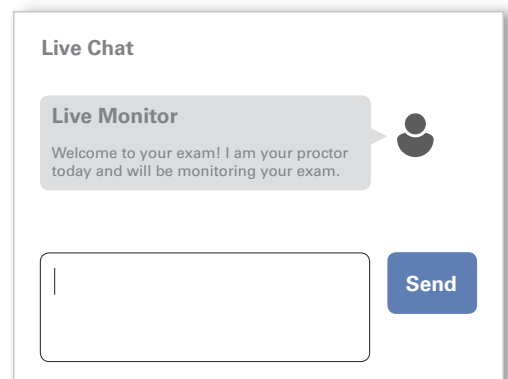
Q. How much and what kind of training do proctors get before proctoring exams?

A. Each proctor goes through an intense two-week training course that introduces them to the testing software and focuses on establishing a consistent, secure environment for every test session. The training teaches them to detect signs of cheating by studying body and eye movement. They are exposed to simulated testing situations to prepare them for any unique situations they may encounter. The proctors also shadow a trainer during live administrations to have real-life experiences and learn how to act and react as necessary. At the end of the training course, the proctor must pass a PSI Proctor Certification exam. We also have ongoing proctor training with a monthly recertification to keep their skills sharp.

Q. What is the oddest acceptable location that you've had a candidate take an exam?

A. We have a surprising number of test takers choose their bathroom. Apparently for some, this is the most quiet, private and uncluttered room in their house. **ff**

Exam-takers are able to chat with exam proctors in real-time.



Filling in the Blanks for Exam 5 TBE

With big changes creating some new unknowns for Exam 5 this spring, it's helpful to hear different perspectives on how candidates are preparing for it.

We asked some Exam 5 candidates to fill in the blanks on their plans for the exam. A sample of the responses is shown below – check the online version of this article to see the full set. **ff**

Candidate	Lee Drinkwater	Nora Evans	Allie Hodson	Chloe Marshinski	Nate Williams
I'm planning on taking the exam...	in my room, on my personal laptop.	at home, on my work laptop.	in a friend's apartment since I have pets that would be distracting, on my work computer or a laptop	in a conference room at work, on my work computer.	either at work on my personal laptop, or at home on my personal desktop.
My preferred time of day to take the exam is...	around 10:30 so I have time to wake up, eat and "warm up", without having so much time before the exam that I start to overthink or worry.	late morning because I can sleep in but still be done by a reasonable time.	between 7:00 – 8:00 am because I want to keep my prior exam-taking schedule consistent.	morning, because I like to relax and enjoy the afternoon stress-free.	as late as possible because of more study time on exam day, and not having to alter my sleep schedule.
The issues I ran into when picking a location were...	I didn't have any issues.	finding a place with minimal distractions and dependable Wi-Fi.	dealing with pets and other noise in my apartment complex.	I didn't have any issues.	deciding between asking my family (with three young children) for privacy during the exam, and risking difficulties with Wi-Fi or my laptop elsewhere.
My contingency plan for my Wi-Fi going down is...	my mobile hotspot.	my cell phone's hotspot (but let's hope it doesn't come to that).	to first try and fix the problem, then try to use a hotspot or drive back to my apartment.	that I will be taking it at work, and they are planning to have both Ethernet and Wi-Fi set up.	to go to the nearest library if I'm at home or pray it comes back soon if I'm at work.
My approach to studying for this exam is different from a pen/paper exam in that...	instead of working on writing endurance and speed, I can focus on learning the details of the material.	It hasn't been different so far.	I am doing all practice problems in Excel, and I bought a whiteboard to use as scratch "paper" to simulate the testing environment.	I am planning on doing all of the practice problems in Excel. I'm also planning on taking the sample TBE exam the CAS is offering.	I'll spend time familiarizing myself with the format and strategizing the order of written vs calculation-based questions.

Responses have been edited for length/clarity.



Technology-Based Examination Computer Requirements



The Casualty Actuarial Society (CAS) is transitioning its exams to a computer-based environment, called Technology-Based Examination (TBE), in which candidates will use Excel 2016 within a virtual environment to take their exams on their own computers overseen by professional remote proctors, beginning with Exam 5 in spring 2018.

Candidate computers must meet certain criteria to take an exam in the virtual TBE environment.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Operating Systems Supported: Windows 7 and later 32bit (x86) and 64bit (x64), Mac OS X version 10.9 and above.													
2	Browser: Candidates will download a secure browser to use for accessing the remotely proctored exam environment. Further details will be provided in the coming weeks.													
3	Webcam/Microphone: Minimum VGA 640 x 480 resolution, enabled built-in or external microphone. The webcam must be able to show the workspace, under the workspace, and a 360 degree view of the room.													
4	Internet Bandwidth: Minimum 256kb/s download and 256kb/s upload.													
5	Hardware: 2GB RAM, minimum 1368 x 768 resolution, 1GB free space for installation.													
6	Additional Notes: Candidates need to provide their own computer to take an exam in the TBE environment. Candidates may not use a virtual machine or virtual desktop to access the exam. Candidates do not need to have Excel installed as it will be accessed in the virtual exam environment via a secure browser. A computer compatibility check that will allow you to ensure your computer meets the requirements will be available.													
7														

To learn more about TBE, visit the TBE section of the CAS website, which includes a link to the frequently asked questions and responses, and other resources. Questions about TBE should be sent to TBE@casact.org.

Live Chat

Live Monitor

Welcome to your exam! I am your proctor today and will be monitoring your exam.

Send

Last Updated March 7, 2018

Candidate Liaison Committee Mission

The Candidate Liaison Committee communicates with CAS candidates, collectively and individually, who are taking CAS examinations. The committee informs candidates as to appropriate courses of action available to them. Through periodic communication, this committee informs candidates of results of examination administrations, actions taken on complaints received regarding examination questions and reasons for syllabus and examination changes being implemented. Communication encompasses existing policies and procedures as well as changes being considered. The committee should advise the CAS and its committees of the interests of the candidates regarding matters that come before the CAS and its committees. Candidates may contact the Candidate Liaison Committee at the CAS office address. The Casualty Actuarial Society is not responsible for statements or opinions expressed in the articles, discussions or letters printed in *Future Fellows*.

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In Other Admissions News

CAS Continues to Expand Use of Integrative Questions on Spring 2018 Exams

As originally announced in the December 2016 issue of *Future Fellows*, the CAS is gradually moving towards an integrative testing framework on Fellowship exams. Integrative Questions (IQs) will require candidates to understand multiple facets of the syllabus material and concepts in addressing complex business problems in a single exam question.

IQs were first introduced in Spring 2017 on Exam 9, followed by Exam 8 in Fall 2017. Exam 7 will be the next exam to feature an IQ. To assist Exam 7 candidates with preparing to answer an IQ for the first time, a sample IQ and corresponding response is available on the CAS website. Sample IQs and responses were previously released for Exam 8 and Exam 9.

IQs differ from a typical exam question in three significant ways.

- An IQ will be worth more points. One IQ could be worth 10-15 percent of the total exam.
- Each IQ will require candidates to draw from multiple syllabus learning objectives in order to answer the question.
- IQs will test at a higher average Bloom's Taxonomy level than a standard exam question.

Exams 7, 8, and 9 will continue to include IQs in future sittings, and the number of IQs that will appear on the exams will gradually increase over time. For example, after introducing one IQ on Exam 9 in Spring 2017, the next offering of Exam 9 in Spring 2018 will include two IQs. At the same time, there will be fewer exam questions overall to account for the presence of IQs in order to avoid any increase in the time length of the exam. 