

RECORD OF SOCIETY OF ACTUARIES 1985 VOL. 11 NO. 3

TECHNIQUES FOR PREPARING FOR AND WRITING EXAMS

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MR. CURTIS E. HUNTINGTON: I am pleased to see so many people interested in learning more about how the exam system works, and hope that you will find the morning productive. I work at New England Life in Boston, Massachusetts as the Corporate Actuary. I also serve as General Chairperson of the Education and Examination (E&E) Committee of the Society of Actuaries. The purpose of this session is to remove some of the mystery of how exams are processed, graded, and what the workings of the E&E Committee are.

In view of the subject matter we are about to undertake, and in view of the fact that some of you may be reluctant to be identified in asking questions, we will forgo the pleasure of having you state your name and company affiliation, unless you so choose. I will identify you as Questioner A, Questioner B, and so forth.

The society has a complex educational system; it attempts to educate and examine potential actuaries for both the Canadian and the United States (U.S.) actuarial communities. We, the members of the E&E Committee, want you to understand the process and to be active participants in designing and perfecting it where necessary. I am prepared, if you want me to, to speak for two hours, but I prefer to use this time to answer your questions. After I make a few preliminary remarks, I will open the floor for some general questions.

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The E&E Committee consists of approximately 400 volunteers who work under the direction of the Board of Governors and the Education Policy Committee of the Society of Actuaries. The volunteer structure is an important part of the philosophy underlying the education and examination system. Broad guidelines are provided to the E&E Committee by the two senior organizations, but implementation is the responsibility of the E&E volunteers.

For those of you who have not gotten through it all, the current exam syllabus consists of Parts 1 - 5, required to become an Associate and pick up a red ribbon, and an additional number of exams, that varies by your specialty and by your country, required to become a Fellow and pick up a gold ribbon. Parts 1 - 5 are all multiple choice exams; Parts 6, 7 and 8 are 60 percent essay and 40 percent multiple choice; Parts 9 and 10 are 100 percent essay.

My remarks are directed at both types of exam questions--multiple choice and essay. They will be directed more towards the Fellowship topics since I assume that most of you are at the Part 6 - 10 level exams. But, since that is an impression, and actuaries are supposed to substitute facts for appearances, I will ask you to tell me who you are.

How many of you are not yet Associates?

We have one lonely hand raised quarter-mast.

How many of you are at least at the Part 6 or 7 level in the exams?

How many of you are at the Part 8 or 9 level?

How many of you are already Fellows?

Three or four of you have already passed all of your examinations and are still interested in them. It looks like the vast majority of you are at the Part 6 or 7 levels, looking to progress to Parts 8, 9 or 10. I will try, where options are available, to direct comments towards those exam levels.

Are there any questions, in general, about the system?

QUESTIONER A: Why are the multiple choice questions on prior exams not published?

MR. HUNTINGTON: Good question. Those will be, starting this year. We have been concerned that in the past there has been some slippage in the confidentiality of the exam questions. We recognize that an imbalance occurs when some people have access to prior examinations. That gives some people an unfair advantage and we have decided to rectify the matter by publishing. Exams will be published starting with this spring's.

QUESTIONER B: I have a comment first, and then a question. My comment has to do with why they weren't published. It is my

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understanding that some of the questions have been used over and over again. Is that not true?

MR. HUNTINGTON: Some of the questions were used over again as benchmark questions to test the validity of the exams from one session to the next.

QUESTIONER B: Why do you call them essay exams? I've passed eight or nine of these, and talked to people who have finished them all and as far as I can tell most people don't really write essays. There are a great deal of point-form kinds of things. I've talked to graders from my firm, and they actually prefer that so they don't have to rummage through a lot of verbiage.

MR. HUNTINGTON: We call them essay exams for convenience. Some writing is involved, rather than just coloring in an answer blank.

QUESTIONER C: I guess that, as part of the presentation, you intend to anticipate the attempt to bring current topics into the examination. It seems to me, that somewhat precludes the checklist type of exam. In my opinion, this will help us to use our brains instead of just regurgitating material.

MR. HUNTINGTON: The intent is to have current issues on the Parts 9 and 10 Fellowship exams--on Part 9 this fall and Part 10 starting next year. We will give you broad references--current literature from publications such as the National Underwriter, CCH Guides, HIAA Bulletins--on topics related to your specialty, and somewhere between 10 and 15 percent of your primary area questions will be on those current issues. Some questions will be on very current issues, and extra grading points will be given on selected questions where something is happening on the day of the exam. Current issues, when we introduce them initially, will be strongly oriented towards major new issues. A new budget, for example, is being proposed in Canada. I would consider that fair game in terms of tax questions on the next exam. In the U. S., there is a proposed tax law change as well; I would consider that fair game. I would not consider issues that may have been mentioned only once, or only in one or two select publications to be current for examination purposes, since those should be broad-based subjects.

QUESTIONER B: I have a question about the past, when one answered based on current topics. I remember specifically when I wrote Part 7, there was a question about conditional receipts. I was writing the Canadian specialty and the answer according to the study notes was wrong, because there had been a recent court decision. I mean really recent at that time, I had read about it a week before the exam. The decision was on legal proceedings in Canada. It suggested that everything we'd been taught about conditional receipts was probably not true (in Canada). I answered that way. I answered both ways. I felt I had enough time, so I figured what the heck I'd go for it. I passed anyway, so I was happy enough. But, what I want to know is, which answer the marker considered to be the correct one.

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MR. HUNTINGTON: The answer from the study material is always correct. Even if it is wrong, it is correct, because it is identified as the study material. However, if you know about something that has changed since the study material was prepared, then use that information in your answer. That would also be correct. And answering it both ways would also be correct. So you have three options for correct answers. However, you are probably not getting three times the point count.

MR. WALTER LOWRIE: Why is it the exact pass marks for the exams are not revealed to the public?

MR. HUNTINGTON: The pass marks vary significantly according to the difficulty of the exam and the quality of the student population. To release a specific pass mark, I think, is misleading. If a pass mark for Part I in May is 55 and because of a factor becomes 45 in November, or it becomes 65, I am not sure that having known the pass mark was 55 in May gives any useful information because it may no longer be relevant for the exam you are writing.

We, in looking at student populations taking the same exam under the same conditions, compare the quality of the current exam with that of previous ones. We will make adjustments in the pass mark according to how well we have done our job and according to how well you have done your job and the absolute pass marks may vary significantly on some of the exams.

If there are no further questions at this time, I will talk in general about preparation for multiple choice versus essay exams. I will talk about the idea of identifying key concepts and a little about ways of outlining study material, particularly on essay materials using the progressive outline approach. This is one method we recommend as a way of working through material. I will talk a little about how you should approach practice exams; how you should put yourself in the shoes of the questioner and how you can respond from that position. Looking at problem solving and conceptual mathematical problems, I will talk about how to do some monitoring of your understanding; how you can target some weaknesses; how we can help you target them if you manage to get through the exam but fail. Finally, I will talk about the idea of using study groups, and then some techniques about writing multiple choice and essay exams.

With respect to general guidelines for preparation, I think that the clearest information we can offer you is to suggest that you put yourself in our position. What are we as examiners or question writers going to be doing? You are looking at the same material we are. You should become aware of particular types of material and start looking at it with a little more interest than just a bunch of words. If you are studying for some of the early essay exams and you see a list in a particular section, you ought to think that might become an exam question. It is easy for you to memorize the list and it is certainly easy for us to write a question from the list. That may not be the best type of question to have, but some questions are going to be list oriented. If you have read ten points describing something that is a

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major topic on the syllabus, I suggest that you pencil those as possible questions.

When you see the word "because," or when you see the word "since," remember there are a lot of good multiple choice questions that come from sentences having one of those two words in them. There is one particular type I like, the assertion-reason question, and later on I will indicate ways to answer it. We create assertion-reason questions from the words "because" or "since" in the text material. We are suggesting that you might want to look at those statements a little more closely as well.

If there are discussions about relationships, or interrelationships, between countries or various topics, those are very good bases for "compare and contrast" essay questions. I know that students from both Canada and the U. S. complain, loudly at times, about the requirement that they have to learn the material of the other country in great depth. It may be totally irrelevant to your direct work situation, but from an educational viewpoint, we believe it highlights some key concepts that might be considered in formulating a particular policy. It is also a very useful device, particularly on Parts 6 and 8, which are not nation specific, to give both countrys' students the opportunity to compare their two systems and demonstrate their knowledge of both.

One way to study is to identify questions amongst yourselves and then meet in small groups to share those. You should each contribute to small group discussions by trying to identify questions that you personally believe will be on the exam. You may know from your own work experience or educational background, as Questioner B has already pointed out, a useful alternative way to answer a particular question. That is something you may want to consider as well. In essence, if you think there is a good basis for a question, I will probably think so also. We might meet on the exam day on common ground.

It also helps to read the material. That is not obvious, sometimes since the materials are not always the easiest to read. But if you are hoping to pass, and get a reasonably good mark, I think your chances without having read the material are less than they will be if you have read it. You may, on the current issue subjects, on Parts 9 and 10, just because of your normal work, be able to pass without really being cognizant of the fact that you are reading significant material. But if you are answering on a secondary subject or on a subject that you are not directly familiar with, reading helps.

The recommended way of studying the reading material is to outline what you read. The people who structure the exams, and who have gone through the exams before you, have used, in almost all cases, the idea process of writing material out in their own words, having read it through once. You can highlight if you want to, but I, for example, do not go back to the source material after the first reading. My obligation to the examiner is to communicate, in my own words, the subjects that are contained in the text material. If I do not start drilling fairly soon in the process, I am going to discover that, when I

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take the exam, I am still trying to go back and remember what the author wrote, rather than what I have understood.

I use a progressive outline approach; I outline the material fairly extensively in my own words and then I outline the outline. Then I outline that again. Finally, you have just a few key points left by the time you get to the exam.

QUESTIONER D: I agree with the way you suggest preparing for an exam--to outline and reduce the material to an amount that is readable; that's the way I like to study. But I've found that for the earlier essay exams, Parts 6 and 7, the method works against effectively answering the multiple choice sections. You can condense the material in such a way as to write and prepare yourself for the essay portion, but I don't think that is adequate for the multiple choice. The multiple choice portion is so specific that knowing and understanding in your own words is not enough.

MR. HUNTINGTON: You are correct. We recognize that some of the subjects are more readily studied that way for essay exams, and that some are more readily studied other ways for multiple choice exams. Those of you who took Part 6 in May noticed, for example, that the tax questions were all essay this year. In the past, you were forced to remember specific tax provisions. That is not easy for you to do unless you get enthralled in memorizing the straightforward tax codes of your countries. It is certainly easy for us to develop (and for you to answer) minute tax questions, but I am not sure that a current answer to such demonstrates an understanding of the material. We have attempted, in this case, to get back to the longer form answers so we could use the essay approach. There are still some subjects on the syllabus that may frustrate you because they are so specific, and you will have to make a much more detailed study of them, but in general if you confine yourself to essay type material, I would suggest the outline approach.

QUESTIONER E: I would hope that if you are going to split the material between essay and multiple choice that you'd tell us in advance so we know what kind of studying to do for those subjects.

MR. HUNTINGTON: Accepted. The general method I am discussing now is meant to cover all of the subjects, and I believe the outline approach can be used in the multiple choice structure as well. The questioner had pointed out one particular difficulty with that; I will address that later on.

MR. ROBERT MCKAY: I'm one of the General Officers of the E&E Committee who works with Mr. Huntington. I followed a similar approach in studying, developing successfully narrower lists; but one problem I found with that is that it can cause problems with multiple choice exams, and it also can get pretty boring. Therefore, I would go back, maybe a month or so later, and reread some of the original source material in order to fill the outline. I wouldn't do this for everything, only for things that I had identified as important or maybe where I was having trouble understanding what the points in my list

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meant. I would go back; it gave me something fresh to look at and it provided the perspective to help answer both multiple choice and essay questions.

MR. HUNTINGTON: One final suggestion on general preparation is that drill is very important. If you are preparing for multiple choice questions, work on them constantly. The way to study for a Part 1 or 2 exam is to work problems so when you take the exam, you are not suddenly surprised by question structures you are not familiar with. In the exam setting you, should be looking at question structures that you have seen before and that you have a sense of how to handle in answering. They should seem to be, if not friends, at least not enemies.

QUESTIONER F: I've found that my initial drill came on the exam. Why were drill problems not available, accompanying some of the study notes?

MR. HUNTINGTON: It can be a difficult process to create exams twice a year, for those given twice a year, and for the Fellowship exams once a year, within the volunteer system. We sometimes have trouble creating one exam, let alone several. An earlier questioner asked about the publication of multiple choice questions. We are going to start publishing all multiple choice questions.

Although many of you have already passed the Part 4 exam, let me use that as an example. We are not only going to supply past questions, we are also going to supply sample solutions, particularly using material from the new actuarial math textbook. All the essay questions are already made available to you. You take the questions out with you when you leave the exam room. However, if you are studying for an essay exam, you will now also get a set of model solutions of previous essay questions.

When we introduce a new subject on the exam, something like survival models and data analysis, the current guidelines are that we must produce two exams before the first one is administered. We will produce one that you will take, and we will give the other out as a sample exam from which you can study. So, we will try to get more and more drill problems.

We will do that within the context of making sure that the exam system is functioning. It would be, I suggest, difficult for you to accept, in mid-May, that no exam was available with which you might demonstrate your knowledge. So, we will try to make sure that is not a problem. But, we also have an obligation to provide you with as many drill problems as we can--both from the past and into the future.

One other suggestion for general preparation is that you work with others. If you are in a large community, or a large company, the benefit of continuing dialogue with your fellow students is tremendous. It cannot be overemphasized. One option is to talk to other people about issues you are facing, after identifying questions that you believe will be on the exam. Another option is to discuss problems that are going on in your company or in your specialty area.

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If you are located in Yellowknife and there is not another actuary for a thousand miles around you, you will have a little difficulty with that. For the future, we have started looking at the possibility of using data bases so that you can develop study groups through home computer networking. We are going to see if we can give isolated students a chance to avail themselves of the opportunity of working with others. Any chance you have to talk, either to a practicing actuary who has familiarity with the material or a fellow student, is beneficial in terms of learning the material.

One thing you should be aware of is that the E&E Committee has a series of test blueprints. Every examination committee has taken the material in the syllabus and developed a blueprint of what is covered. The members have determined proportions of exam material from Book A, from Book B and so on; what type of material it is; and, whether it is easy reading or difficult reading. Also, whether it should be weighted as double counted pages because you have to read through it ten times in order to understand it, or as single pages because it is quite easy and you can get through the whole thing in one night--sort of light reading. We count pages as a beginning point, and then we adjust for the quality. We also do some checks on relevance. You may not believe that, but it is true.

We've also established a sunset standard for study notes. A study note that has been on the syllabus for five years must justify its continued existence or it gets thrown off. We established that rule this year, so it may be a few years before you start seeing the more outdated material disappearing. You may also discover that some of the material may well, in fact, stay on because we are not able to find better replacements. Nevertheless, we are committed to making an evaluation of the material and insuring that it has continued relevance.

We also evaluate the exam material to insure that the relative point count the exam is producing is directly related to the page counts and the quality controls that we have in the blueprint. If 50 percent of the material is on one subject, you might anticipate 50 percent of the exam points to be on that subject. But that is more true of multiple choice exams than it is for essay ones. On multiple choice exams, we can ask you many questions, and thus, we can cover a subject in more refined detail. It is more difficult to do that on essay exams, and so the categories we use tend to be much broader. But the categories are weighted, and we use those weights when we select the exam material. Thus, the bottom line is that a multiple choice exam follows the distribution, and it follows it very closely.

An exam committee produces the exam and must then defend it before the General Officers of the E&E Committee. One of the defenses the committee must come up with is why there is a deviation from the test blueprint. On the essay portion, the Exam Committee will have the ability to deviate more, because of the broader subject material and the requirement to ask fewer questions.

QUESTIONER G: I am studying for pension plan financing, and I was wondering why it is covered on two exams. I understand that it might

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be interesting to know about group and other things, but, I studied it both for Part 6, and then for Part 10. I thought that the material was long, and I had to spend energy on parts that I didn't need for my professional work. I needed to put too much emphasis on material that I was not as interested in, because those were not subjects that I know as well. For example, I put much energy into financial statements and found them very hard to study.

Finally, there was the part I was really interested in; I may put 40 percent of my time in there, because it is more in my interests. But, if I succeed, I still won't feel that I've gotten what I want from the exam, because I don't feel I'm very knowledgeable about the other subjects. So, I was wondering why, when you construct a syllabus, you don't have one exam that covers only secondary subjects and a primary exam containing only primary subjects. Is it possible to keep the same percentage of material, 40 percent on secondary topics, 60 percent on primary ones, but administered on different exams?

MR. HUNTINGTON: That is a very good suggestion. We recognize that the pension syllabus, particularly at the Fellowship level, needs to have some surgery. Whether it is minor or major depends on your perspective. And, we want to perform it within the best interests of the pension community as well as the exam writing communities; also with the least amount of disruption to both sides. The goal is not to have a sudden transition; it is to have an orderly evolution. We are very cognizant of the concerns you are raising, and we are actively looking at these points. I would envision some changes in the structure of the pension content in a year, year and a half time frame.

QUESTIONER H: I was wondering how long before the exam is administered is it actually written and set. I think I can phrase that more specifically. A new study note for Part 6 that was sent out maybe a month or six weeks before the exam was given, and it was a pretty difficult note. Eight of us in my company were taking the exam and we worked very hard on that study note. We figured that it was new, and that the material was going to be on the syllabus. However, there were no multiple choice or essay questions from that note. If the exam was already made up by the time the material got to us, maybe you could say: "Hey, don't even bother reading this." We did spend a lot of time, and I'm sure that a lot of other people did also. We thought we were a little ahead of the game, because we spent so much time on it.

MR. HUNTINGTON: You are ahead of the game. You have gained some knowledge of the subject. You benefit from that. Let me answer your question first, however. The exams for November are being created right now (that is, early June). The questions are basically set at this point, in terms of broad subjects written by the item writers and the committee members. The exam will be finalized in late July or early August after the exam writing committees present and defend them before the General Officers of the E&E Committee. We will have the final exam for November in early August. That is approximately four months ahead of time. The same thing is true, by subtracting six months, for the May exams. The exam writing committees have

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knowledge of new study material. And, we do have a deadline for all study material. If it is going to appear in the exam, it must be in final form by March 1 for the November exam.

The particular note you mentioned was late for the May exam. It was not the ideal situation, and we regret it. The goal is to have the Education Committee establish the syllabus well in advance of the item writers writing the questions. We may get it before you do. We may get an advance copy, or a proof copy, but basically if a study note is indicated as being on an exam, it ought to be testable and you ought to see some questions from it under the test blueprint. We are not perfect, as demonstrated by this instance.

QUESTIONER H: Just as a quick follow-up, I understand that it's difficult to write these exams, but when I received the note in question, and it was late, and again, a bunch of people in my company had the same concern, we called up the Chairman of the Part 6 Committee. He said that the note was open as testable material. I just feel that maybe you should just give in and say: "Let's bag it, it's too late." That just isn't done though. There are no notes that are just sent out that say: "Hey listen, we realize it was late, we blew it," and let us know, because you knew it wasn't going to be on the exam.

MR. HUNTINGTON: The difficulty is making sure that we have adequately communicated to everyone. If you call and one of us says it is not going to be there, we have an obligation to tell that to everyone else at the same time.

We are not in a position to do that because of the mechanical aspects of getting out the information to everyone at the same time. The Canadians, for example, have a very difficult problem of getting notes across the border from the U. S. We have long delays coming out across the border. We want to be fair to everyone. I think the Part 6 Committee Chairman was correct in indicating the material was testable. In the future, I think it will be fair game because we will impose and monitor very closely the deadlines. But your point is valid.

QUESTIONER I: I would like to ask a question regarding the distributions of the questions. I wrote Part 7I in 1983. There were a large number of questions on pensions, so I blew it. The year after, in 1984, I said: "Well, I'll make sure that I will get the pension material right." I spent a lot of time on the pension material and it turned out that the distribution was the other way around. It seems as though there is sometimes a conscious decision to reverse the past pattern of the exam (from pensions to insurance). I think it is misleading because you expect the exam to be distributed in the same way as in the past. You almost feel that it is done on purpose.

MR. HUNTINGTON: We are not out to get you. You may not believe that, but I am trying to assure you it is true. If you had read the syllabus and checked it, I think you would have seen a clue as to what the structure of that exam was going to be, and what the distribution of the material would have been between the two exams. There will have been some changes between one year and the next, but that was

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not done at the exam time. It was done during the education time, when the requirements for admissions were being put together. If you read the syllabus closely, I think you will get some clues about how these exams are constructed and I think such changes are evident, even if they are not highlighted.

QUESTIONER I: Yes, but even some friends of mine who wrote the pension section thought that there were just too many insurance questions on the exam, so sometimes the balance could be quite off.

MR. HUNTINGTON: The balance is controlled by a test blueprint, as I have already indicated. We can talk afterwards about this specific case, because I am not aware of that imbalance. Within the insurance topic or within the pension topic, there may have been some imbalance if it is an all essay approach, because we cannot ask you a question on each particular study note; but between pension and insurance, the balance was enforced for the last several exams.

QUESTIONER J: I have two questions. I took Part 10 in May of 1984 and a study note was released in the second mailing. I took the exam again in 1985 and, once again, the study note was in the second mailing. Why couldn't the note have been moved up to the first mailing in 1985? My second question is that for some of the earlier exams, candidates who don't pass can receive an analysis of where they fell relative to other candidates for the various topics in each exam. Can that be done for the upper level exams as well?

MR. HUNTINGTON: In terms of the first question, Mr. Bartels is the Director of Education and Examination Support Services in the Society's Office, and is in charge of the study note distribution. I will have him check on that problem. I am not aware of that having happened and it should not happen.

In regard to the failing notice analysis, that is automatically produced for all the multiple choice exams, as a by-product of the grading process. The multiple choice papers are machine graded by a firm, the American College of Testing of Iowa City, Iowa. Not only do they tell us which questions you have right and which you have wrong, but they also do an analysis for us, by subjects, as a by-product.

We have the same by-product available for the multiple choice portion of the Fellowship exams. The problem up until now has been to combine the essay portion with the multiple choice portion, because you are being graded on the entire exam. We have not yet had computer capacity in the Chicago office of the Society, and enough time and/or volunteers, to put it together. I recognize that is like saying: "It's in the mail," but we are working on it and intend to start doing that within the next year and a half to two years.

If you have a failing paper on a Fellowship topic, and you feel strongly that you would like an analysis of what happened in terms of your total performance, a nicely written letter to the part committee chairperson will ultimately elicit some information. A poorly written letter, or a nasty letter, will elicit nothing. But if there is a well-written letter to

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the part committee chairperson, once he finishes processing the papers and the administrative work, he will spend some time (and many will spend a considerable amount of time) giving individual analysis and/or counseling.

QUESTIONER K: Just a comment about the Part 6 late study note, there were two multiple choice questions from it. So it wasn't the case that the material wasn't covered at all.

MR. HUNTINGTON: Thank you.

QUESTIONER K: How can the test blueprints be made available to us?

MR. HUNTINGTON: Currently, those are working documents for the exam committee members. We will ultimately start releasing them, but we have been using those only for the last year and a half. We only just started discussing the "soft" and "hard" quality content. Once we know they are effective, we will start publishing them.

I'd like to turn now to a discussion of general strategies for essay exams. First, when you get into the exam you should note before you start writing how many points there are and allocate your time according to the point count. It will do you no good to tell me that at the end of three hours, you did not realize there were eleven questions on the exam, and you answered only ten.

At the end of the Part 10 session this time, I received a call from a student who informed me that he knew the answer to question eleven on the morning paper (this was at three in the afternoon), but that he just did not know it was there. We tell you, on the front of the exam, what questions are going to appear by subject type. We tell you where they are going to appear in the exam booklet. At the end of each exam, there is a bold-typed line that tells you that you have reached the end of paper.

Next, make sure you have all the pages in your exam booklet. Sometimes, because of mechanical problems, booklets are produced with missing pages. The proctor has a copy of the exam. By all means, make sure you have all of it.

Then, read each question carefully. We take great pains not to have irrelevancies or unwarranted nuances introduced into the wording of the questions. We are not 100 percent successful, but we try. Our experiences with bilingualism have been very helpful. We translate all of Parts 6 through 10 into French. We frequently go back and forth between the two languages to come up with a rewriting of the English to make sure that it conforms with the French. It has been a very useful device, particularly with the essay questions at the Fellowship level. When you are reading the question, do not read more into it than we are attempting to ask you. We are not trying to trick you.

It is usually very useful to make quick notes on the points you recall in reading the question. As you are reading the question, jot down little notes in the margin. If you put them on a piece of exam paper,

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and you do not want us to grade them, cross them out when you have finished using them. We are not going to read anything that you do not want us to read.

Earlier, I talked about essays, and why we call them essays, and pointed out that many people, in fact, answer these questions in the form of outlines. The outline presentation of an answer is more than acceptable. It is easier for us to grade and if it is easier for you to write, you need not write paragraphs or complete, perfectly punctuated sentences. A brief outline is potentially the most effective way of presenting the knowledge you have. But not too brief. It helps to have more than one word here and another word there. Add a few clarifying statements; put in an adjective every once in a while; put a verb in. A broad outline is perfectly acceptable. It need not be a polished piece.

Do not waste time on irrelevancies. If you know something is irrelevant and I know it is irrelevant, why waste your time and mine by writing it? Rewriting the question will get you nowhere. Presumably, I have written it once and I know what it says, and to write it down all over again is a waste of time.

MR. MCKAY: One thing that I find helpful in an essay exam is quickly reading through it, finding out how many questions there are, and setting my priorities. Some of the questions will be relatively easy for you and some will be relatively difficult. Decide which ones you are going to answer first. If you get a couple of the easy ones done first, it improves your confidence and you move along very well. I used to insure that if I were going to leave out one at the end, I did not leave out any I knew.

MR. HUNTINGTON: What I used to do is find the question I liked the best and leave that for the end--it is sort of like dessert. You know you can always answer that one. Go for the ones you do not really know and, as you are looking at the questions, you may start triggering your memory on points back in the earlier questions. It is a very effective tool.

We also suggest you use ink rather than pencil on essays. I can think of no reason to use a pencil, other than you intend to erase something. And, I cannot think of any worse waste of time in the exam than to erase. A nice cross-out, a big "X" or something may look horrible, but I can assure you that we do not mind. Do not waste your time. It takes valuable time to erase those mistakes. Simple "X" out any material you don't want us to read as part of your solution.

All sorts of questions can be on an essay. There are some short answer, problem type questions. Some may, in fact, have calculations. I am sure you are all proud possessors of the Society of Actuaries' official calculator, but it is rarely needed on a Fellowship exam. You can do most of those questions manually. In fact, when I review the exams, I do all the calculations longhand. I do not use a calculator. But, if you feel more comfortable with a calculator, by all means, bring one in.

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The easiest questions, and sometimes the best-performing questions in terms of selection criteria are the regurgitation or memory type questions. I talked earlier about lists when you are looking at study material. It's easy to write a question from a list, and if you've memorized a list, it's easy to recite it back. It's not our goal, and it's not our desire, to have an exam consist of regurgitation type questions. We are not 100 percent successful in that; we're not 50 percent successful; but we are going to have fewer and fewer of them in the future.

The problem tends to be that students do not seem to like questions that require them to do some thinking. And, it is much more difficult to grade questions that have not come directly out of page 259 of a particular textbook. But if we are both willing to spend a little more time, I think we can both get a better product, and that is certainly the way we would like to go. I do not think regurgitation questions will be eliminated entirely. It is just not feasible in the current structure of our examination system. But, you will start seeing less and less of them, particularly on the Fellowship exams on the Part 9 and 10 level.

As mentioned earlier, one particular type of essay question that is very nice for us to write, and I think performs a valuable educational service, is the compare and contrast question. This requires you to compare two or more subjects or topics and explain the similarities or differences. Particularly where you are dealing with non-nation specific subjects, you ought to expect to see a certain number of questions directing you to compare and contrast countries.

Frequently, a question will direct you to recommend something, and then to support that recommendation. You have all seen questions on essays that read: "You are the actuary for a small Canadian life insurance company selling insurance in the following market." It will ask you to outline a response to your President, or to your Board of Directors, or to some regulatory official. Make a recommendation in the context of the question situation. Just don't throw out particular points. I think you will be more successful in formulating your answer, and that you will probably wind up getting a higher mark on that particular question.

On Parts 9 and 10, on the primary material involving interrelated topics, you will find that compare and contrast questions are occurring more and more frequently. They should be occurring more frequently as you go through Parts 6 to 10. As we progress over the next few years, I think you will see more and more interrelated subject material occurring in these exams. There will be questions where the answer does not necessarily come from topic A only; maybe 40 percent of the answer is from topic A, 50 percent from topic B and 10 percent is from bringing the two together.

Finally, there will be some questions which direct you to analyze a specific environment and come up with some sort of conclusion.

MR. LOWRIE: At the risk of being repetitious, it's worthwhile, when you're answering these questions, to put the major points down

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somewhere. You can put them in the margin or on successive blank page (to be filled in later) and then you won't forget a major point. You have less tendency to get mired down in irrelevancies.

QUESTIONER L: Is there any concern on the E&E Committee that emphasis on regurgitation and memory questions, from the sheer volume of material per exam, is going to produce actuaries who have memory skills rather than the ability to analyze and understand?

MR. HUNTINGTON: As I indicated earlier, we operate under general guidelines supplied by the Board of Governors and the Education Policy Committee. The Board is currently looking at what an actuary is and what an actuary should be; what type of people we should have as actuaries. Twenty or thirty years ago, many people would have accepted that there were "back-office" actuaries and "front-office" actuaries; technicians versus general managers (people dealing with Boards and the public). The insurance industry probably had a need for maybe 70 percent "back-office" types and 30 percent "front-office" types. The hypothesis being tested right now is that those proportions have reversed. The profession needs to produce many more "front-office" actuaries, and they need to be able to synthesize topics, which requires other than memorization skills. To the extent that hypothesis is accepted, and is supportable, the E&E Committee members will also be changing the exam structure to reflect that. I think we all have basically accepted that hypothesis by now, and the profession is moving in the direction of selecting a different type of actuary.

Finally, on essays, it helps to write clearly. I will show you, in a few minutes, an example of an unclear answer and what I would do if I received it as a grader.

Double spacing is helpful, particularly if your writing is large. The proctor will supply you with more paper. It is also very helpful to leave spaces so that when you have second thoughts, or you want to put in clarifying points, you can put them in conveniently and clearly. You can even draw arrows around your paper. (It helps if they start at one point and end at some logical point at some other place, so we can get through the path.) Do it neatly and that will also help you.

If you see a question that says "list" or "state," it is probably a three point question and it means you should list something, that is, take an outline approach. You are not really being asked to write a lengthy exposition. If you are told to "outline," by all means, use the outline approach.

"Briefly discuss" means you should write for fewer minutes than "discuss." Note how many points there are for the question, since we are assigning points based on how long we think it is going to take you to give us enough information to get a good score. Do not write for ten minutes if your original analysis indicated it is a six minute question. Write for six minutes, and "briefly" discuss.

If it says "discuss," it is probably a six or seven point question. Do not write for five minutes; write for fifteen minutes and discuss fully.

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We also develop grading outlines for essay exams. Those indicate all the key points we think should be covered in a model situation to the question. It assigns a relative weight to each of the various points. These weights are based partly upon the significance of the point, and partly upon the time it takes to cover it. Some extra credit is given for the quality of your answer. If you produce a well-formulated answer, conceivably as much as 10 percent of the question points available will be granted to you for that quality. (This will most likely be given on an implicit rather than explicit basis.)

Exhibits 2 and 3 (to be discussed in more depth later) show you two types of answers. Exhibit 2 shows you a well-written answer, Exhibit 3 a poorly-written answer. The well-written answer is going to get a few more points just because we are going to be able to read it and have a better understanding of the candidate's knowledge of the material. Thus, some implicit factors enter the grading process--some additional points may be available from the quality of the writing or the quality of the packaging of the answer.

The process of constructing grading outlines recognizes that you may cover different points or see the question from a different angle than we expected. We may, in fact, review the first 25-30 papers for points being raised that we had not thought of or points not being raised that we had thought of, and for the question not being written as clearly as we want it to be. The grading outline may then be appropriately modified.

As mentioned earlier, we may develop multiple outlines for different but equally correct answers. If you answer according to a study note, that would be one correct answer; if there have been some recent changes in actual practice from the content of that study note, we will modify the grading outline to include a second answer. Giving both answers can produce full marks.

Turning now to particular examples, Exhibits 1-4 are from a five-point essay question on a recent Part 9 exam. The actual question is reproduced in Exhibit 1. An example of a well-written answer is provided in Exhibit 2, a poorly-written answer in Exhibit 3. A copy of the actual grading outline is in Exhibit 4. The question regards a 1972 event. It should occur to you that there must be some significance that the question goes back that far, and that something has changed since then. You can confirm that by looking at the end of the question --you will be asked to bring back an old policy form and reintroduce it.

You are told the issue involves one specific product--it is irrelevant whether the company sells any other products. The product has four characteristics and they are described in reasonably explicit detail. You have facts there and, presumably, you should work these facts into your answer in some way.

You're told about a change in your company's marketing strategy as well as some changes in your company's environment. Your president asks you to refit the old product with certain changes. As an aside,

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we find it useful to have presidents ask lots of questions, some of them fairly unusual. This is not meant to demean the role of presidents, rather we find them useful foils to be used in setting exam questions.

It is a fairly carefully positioned question. By the time you have read it, you should begin to feel that you know the company and how it is organized, know what it is attempting to do and understand some of the concerns of the individual being used to formulate the question. And, the question appears, logically, at the end. We always attempt to put the question at the end. One possible suggestion is that you read the last paragraph of an essay question before going through it from the beginning. This will give you a sense of what you will be asked to do to the material.

The question in Exhibit 1 was written by a member of the Part 9 Committee, reviewed by a Vice-Chairman of the Part 9 Committee, possibly modified by the Part 9 Chairman and, finally, reviewed by two or three General Officers of the E&E Committee. It was translated into and out of French, at least once. It was reviewed by a number of different people. The wording is not meant to be tricky.

EXHIBIT I

311. (34 points) You are the actuary for a U.S. life insurance company which writes business in 45 states. In 1972, your company sold an individual Medicare supplement product with the following characteristics:

- (i) benefits included the Part A deductible, the Part A coinsurance during the 61-90 hospital confinement days and during use of lifetime reserve days, and 20% of the Part B eligible expenses incurred while hospital confined;
- (ii) the anticipated loss ratio was 50%;
- (iii) commissions were 70% of the first year premium and 20% of renewal premiums; and
- (iv) the expected profit margin was 10% of premium.

Due to a change in marketing strategy, the company withdrew the form in 1973 and did not market Medicare supplement plans after that date. The company implemented benefit increases and rate increases so that the originally anticipated loss ratio and margin are still expected over the life of the business.

The president of your company asks you to refile the old product with benefits adjusted to the current Part A deductible. Premiums would be identical to the present scale and commissions would be 65 percent first year and 15 percent renewal. On this basis, the president expects a 15 percent margin.

Evaluate the president's suggestion in light of recent legislative and regulatory activity.

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Exhibits 2 and 3 are two actual candidate responses, but with all candidate identifying information removed. For future publications, I have asked the Education Committee to develop model solutions that are not idealized regurgitations of the original text, but rather what can be expected to be submitted under exam conditions.

Exhibit 2, the first paper, received full credit with just two pages of writing. The first sentence is a nice positioning statement--it is not really irrelevant. Then there is a discussion of the role of the NAIC and the requirements of a Model Act. The answer highlights particular points. I am not sure you could call it an essay in the traditional sense--but, it is more than an outline.

Exhibit 3, the second paper, received no credit. Only the one page of writing was submitted. While I can read it, that would certainly not be an easy task if you were grading at midnight, and this was the 700th paper you had to look at. It was submitted in pencil--we suggest that you use ink since it presents a better work product. And, it is extremely difficult to read. It certainly is not going to get any quality points.

We will do our best to read all of the papers. In fact, the grader might have spent about five times the average length of time in reviewing the Exhibit 3 paper before concluding the response basically said nothing.

The model solution and, in fact, the grading outline for this question, identified 34 points. Exhibit 4, the outline, is split into three major sections--the modifications, the Baucus elements and the points with regard to policy.

In general, the grader uses a separate sheet of paper for recording your points. We never mark on your paper. Your paper remains in the same condition in which you submitted it. Most papers are read by at least two people (sometimes as many as five) and we do not want to influence later graders with marks from an earlier one.

QUESTIONER M: Do you need to get 34 out of 34 to get full credit for the question?

MR. HUNTINGTON: No; the paper I showed you, the one receiving full marks scored, I believe, 27 points. We use a conversion scale to relate grading outline points to question point credit. We would not expect people to get every point on the grading outline in order to get full question point credits. However, if it were a mathematical question, we would then expect someone to get the answer correctly to get full question point credit.

MR. MCKAY: On the other end of the scale, how many points were needed to get any credit on that question?

MR. HUNTINGTON: To get more than a zero, you'd probably need to get somewhere around 6 or 7 points out of the 34. The grade will be curved, and is based upon the performance of the candidate population.

EXHIBIT 2

There has been both state and Federal attempts at cleaning up Medicare Supplement products.

NAIC Model Act requires:

1. Minimum benefit standards apply.
2. An outline of coverage on the policy should be clearly spelled out.

3. A Buyer's Guide to Medicare Supplement Policies will have to be distributed.

4. Spell out all LIMITATIONS

To comply with the above company would have to make sure benefits in policy are at least as great as minimum. Company will also need to prepare 2. + 3. + 4. above.

Federal (Bancroft Amendment):

1. Require min benefit standards \equiv NAIC
2. Require minimum loss ratios of 60% min, 75% group
3. Would require states enact legislation to oversee this area, if not Federal deal of approval would be needed.
4. Increase education of Buyers
5. Require a state panel be set up to oversee practice.

On both federal and NAIC proposals there would be penalties spelled out for the act and the CO for any

misrepresentation. This should be communicated to agents.

Anticipated loss ratio of 50% would not be approved. Will need to lower prices with a commensurate reduction in profit or commissions.

In the pricing will need to account for 2 additional items:
(1) recently enacted legislation makes Medicare the secondary payor with the group plan primary, thereby reducing Medicare expenses.

(2) there are new Section 223 limits on Medicare reimbursement from hospital which penalize excess charges and reward low charges.

Should adjust for both of these in new pricing.

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EXHIBIT 3

The reaction from the 45 State regulators may be very different. As the company has just raised the rates of a similar product though with benefit increase, the regulators may question why this new product ~~can~~ have ~~the~~ same ~~rate~~ but the profit margin is higher. The anticipated loss ratio 50% may still be too low. There may now be the minimum loss ratios of 65% in some states as the Commission would see that such level ~~was~~ should be attained. The cut down in the Commission scale would be welcomed by the regulators so that is a rebate in the expense but this may mean a higher loss ratio should be justified.

This new product may replace the old product in the new business sales. As a result, the replacement of the old product may deteriorate. This may then mean further increase in rates for the old product. The

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EXHIBIT 4

Revised 12/10/84

1984 Part 9 Examination

Question 311

Source: RSA Vol. 7, #2 pp. 664-665

Grading Outline:

<u>Points</u>	NAIC Modification To Model Minimum Standards:
2	Minimum benefits requirement*
1	Display of caption on policy
2	outline of coverage
2	Buyer's Guide
	Baucus Elements
3	Adoption of Baucus amendment
2	forced states to adopt Medigap restrictions
2	by providing for voluntary certification of policies which comply
1	in those states which don't adopt restrictions
2	minimum benefit requirement*
2	loss ratio requirement
2	60% individual
2	agent misrepresentation penalties
	Points with regard to policy
1	Review for minimum benefits
1	Policy doesn't meet minimum benefits
2	Refiling will have to be at lower rates or more benefits to get 60%
1	squeezing margin by 10%
2	Additional expenses will squeeze margin, such as
1	printing and distribution of buyer's guide
1	and outline of coverage
1	additional agent training
3	Other valid remarks, 1 each up to 3
34	Total (examples: rough analysis of profit, recognition of automatic benefit increases, valid remarks about competition)

*Only give credit for recognition of minimum benefit requirement once.

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QUESTIONER N: Will you lose any points for a wrong answer?

MR. HUNTINGTON: You will never get less than zero on any particular question. If part of your answer is diametrically opposite another, correct point, you will get credit for the correct point but not penalized for the incorrect part except for having wasted time you could have spent on other questions.

We receive all of the papers at one central site where the envelopes are opened and the contents checked to insure that there is a piece of paper for each question. If a response to a question is missing, a sheet is set up indicating that the candidate did not answer the question. The questions are then sorted and mailed to committee members for initial grading--at the offices and homes of the part committee members. The answers of all candidates for one question are assigned to one grader.

After this, we attend a centralized grading session. Papers that have clearly failed (a preliminary score of 0, 1, 2) or clearly passed (a preliminary score of 8, 9 or 10) receive no further review. If the independent judgments of a number of graders are the same, it is irrelevant to us whether you have a high 9 or a low 10--in either case, you clearly passed.

We look at some 35-60 percent of the papers again (those with preliminary scores of 3, 4, 5, 6, and 7, for example) at central grading. However, this time, the papers will be read by a different grader using the same (adjusted) grading outline.

If the scores from first and second readings do not agree, the graders must negotiate and find a way to make them agree. It may be that one person could not read the original document. It may be that an issue was raised, but the structure was unclear. These graders attempt to reconcile all differences to within a small tolerance.

We then take the grades from the reconciled scores, add any multiple choice scores, and prepare a tentative pass mark from the statistics. We compare current and past experience and then set the pass mark.

The message here is that every borderline paper is read in its entirety at least twice and, frequently, three or four times for candidates close to the pass mark. We want to make sure that the highest failing papers have been graded properly using the same, adjusted grading outlines.

When taking a multiple choice exam, you should work through questions following the same basic exam strategy of time allocation, based on identifying the number of minutes you should spend on each question. Again, spend the first five minutes of the exam time looking through your booklet. Make sure you have all the pages you are supposed to, get the general flavor of the exam itself, and select your approach. Then divide the rest of the time up accordingly.

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Remember, you must put your answers on your answer sheet during the allotted exam time. No additional time will be allowed at the end of the session for this. If the answers are still in your exam book, you score will wind up as a zero.

The scoring formula for an all multiple choice exam is one point for each correct answer (R) plus one-fifth for each answer omitted (O) ($R + 1/5 O$). The scoring formula for the multiple choice portion of a mixed multiple choice/essay exam is one point for each correct answer (R) minus one-fourth for each incorrect answer (W) ($R - 1/4 W$). The different treatment is because of the need to have a better statistical measure on the combined exam. It produces the same discrimination--the same people are passing or failing regardless of the formula used.

The message to you is clear in both cases. If you know nothing about the question, omit it. Since a random guess would produce the correct response one-fifth of the time, you might as well get the guaranteed one-fifth of a point (or not lose the one-fourth of a point if you guess wrong). You should not waste time reading the question if it is a subject you know nothing about, because you have a guaranteed positive result by omitting, and you can spend the time on other sections of the exam. If, however, you can make an intelligent guess, because you know something about at least one of the answer keys, you have changed the odds to your favor and you should guess.

There are four basic multiple-choice question types--calculation (both numerical and formula), assertion/reason, all-but and triple true/false. The following six sample questions show you illustrations of each of these. Several other types of questions are available, but are used less frequently. Exam questions tend to be variations of these standard four.

To begin with, on multiple choice exams, the familiar bell shaped curve in Exhibit 5 shows, on the vertical axis, low versus high question difficulty, and on the horizontal axis, the questions in the order they appear on the exam. It is the intent of the examiners that the first several questions be the easiest on the exam. I know you don't believe this, but we hope this will assist in ridding you of examination jitters.

If you do not feel comfortable with the first few questions, you will have some problems farther on. The questions are going to become more difficult. We really are trying to give you an opportunity to get comfortable with the exam.

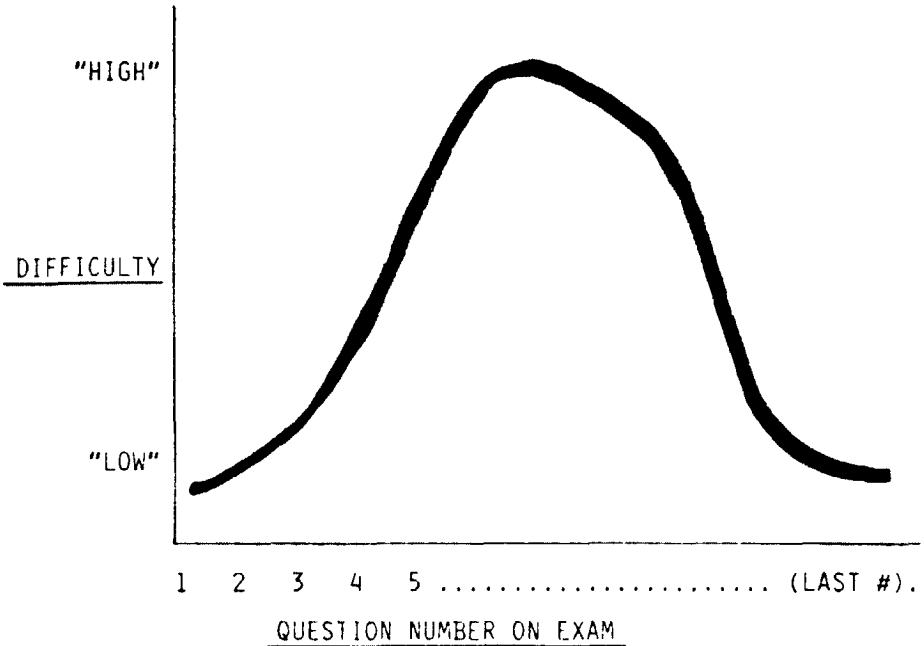
You should also note that some of the easiest questions are also on at the end of the exam. You are given instructions that you should not spend too much time on any one question. We suggest that you allocate your time over the entire exam. If you get bogged down in the middle, you might lose some fairly easy questions at the end of the exam. Do not spend too much time on any one question.

Now let's look at Exhibits 6, 7 and 8 sample calculations (Questions 1, 2 and 3). In these you are given certain information and asked to calculate a value. Note again that the question appears at the end.

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EXHIBIT 5

MULTIPLE CHOICE QUESTION DISTRIBUTION



You might want to approach these questions the same way as essay questions. Particularly if there is a long introduction, you might want to read the last sentence first to see how you might make use of the preceding information. All of the data is there for some reason or another. Usually you need to use it in the calculation. However, you can get a valid answer without using all of the data, do not worry too much. We sometimes will put in extra information to partially disguise the problem.

All answers are given to the nearest \$1 since you may want to round, or you might not be using a calculator. You should come that close to one of the answers. If you come up with one of the answers shown, you should feel fairly comfortable that you have the correct answer. However, remember that most of the incorrect answers came from the exam committee members. Those were solutions they arrived at when they worked the question the first time. Thus, there are probably approaches to the problem that will lead to many of the incorrect responses.

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If, at some intermediate step, you wind up doing some strange calculations with messy long divisions, I suggest you might have made an error in an earlier step. If you still have time allocated to that problem, you might want to go back and find the error.

The questions are basically designed to be worked (and are capable of being worked) without a calculator. (The Joint Board exams in the U.S. are an exception to this--there, a calculator is required.)

EXHIBIT 6

Question 1

You are given the following information about an annuity policy:

Annual annuity payment:	\$ 1,000
Annual interest rate:	6%
Net single premium:	\$ 9,000
Survivorship benefit portion:	\$ 212

Calculate the capital liquidation portion of this year's annuity payment.

(Answer to the nearest \$1)

- (A) \$248 (B) \$308 (C) \$380 (D) \$447 (E) \$540

Question 2 (Exhibit 7) gives you three pieces of information and asks you to calculate a value to the nearest 0.001. The format is fairly similar to that of Question 1. Always check the form of the answer before blindly working through a question.

EXHIBIT 7

Question 2

You are given:

- (i) The force of mortality for all ages is constant.
- (ii) The force of mortality equals the force of interest.
- (iii) $\bar{a}_{\overline{20}|} = (1.5)\bar{a}_{\overline{10}|}$.

Calculate the probability that (50) will die between ages 70 and 80.

(Answer to nearest 0.001)

- (A) 0.100 (B) 0.115 (C) 0.125 (D) 0.150 (E) 0.175

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For example, in Exhibit 8 (Question 3), you are clearly looking for a formula. You are looking for a particular structure that has a P at the start, multiplied by something in parentheses, which is in turn multiplied by an annuity function. You should try working your problem through in the form in which the answers appear.

EXHIBIT 8

Question 3

A whole life policy is issued to (x).

Under modified reserve system A, $a = 0.25B$.

Under modified reserve system B, modified net premiums in the first and second policy years equal the cost of insurance in each of those years.

Find ${}_tV_x^A - {}_tV_x^B$ for $t > 2$.

(A)
$$(P_{x+2} - P_x \frac{{}^{\ddot{a}}_x + .25}{{}^{\ddot{a}}_x}) {}^{\ddot{a}}_{x+t}$$

(B)
$$(P_{x+2} - \frac{P_x \cdot {}^{\ddot{a}}_x}{{}^{\ddot{a}}_x - .75}) {}^{\ddot{a}}_{x+t}$$

(C)
$$P_x \left(\frac{M_{x+2}}{N_{x+2}} - \frac{N_x}{N_x - .75 D_x} \right) {}^{\ddot{a}}_{x+t}$$

(D)
$$P_x \left(\frac{N_x - C_x - C_{x+1}}{N_{x+2}} - \frac{N_x}{N_x - .25} \right) {}^{\ddot{a}}_{x+t}$$

(E)
$$P_x \left(\frac{N_x - C_x - C_{x+1}}{N_{x+2}} - \frac{N_x + .75 D_x}{N_x} \right) {}^{\ddot{a}}_{x+t}$$

Let's look at the assertion/reason type illustrated by Exhibit 9 (Question 4). Earlier, when I was talking about reading the text material, I said to look for the words "because" and "since" in the language. Where you see "because" or "since," an assertion/reason question can be developed.

What do we do with this type of question? We have five answer choices as we do for all of the multiple choice questions. We have an assertion (as a stand-alone statement) and we have a reason (also a stand-alone

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statement) and we have them tied together with a capital "BECAUSE." You are asked to determine the validity of the assertion, the validity of the reason and if there is any causal relationship between them.

EXHIBIT 9

Question 4

Each of Questions 8 through 10 consists of an assertion in the left hand column and a reason in the right hand column. Code your answer to each question by blackening space:

- (A) If both the assertion and the reason are true statements, and the reason is a correct explanation of the assertion.
- (B) If both the assertion and the reason are true statements, and the reason is a NOT a correct explanation of the assertion.
- (C) If the assertion is a true statement, but the reason is a false statement.
- (D) If the assertion is a false statement, but the reason is a true statement.
- (E) If both the assertion and the reason are false statement.

Assertion

In 1978, about 70% of the total cost of Supplementary Medical Insurance was being paid from general revenues.

BECAUSE

Reason

In 1978, some participants in the U.S. were paying more in Social Security taxes than in federal income taxes.

Response A says that the assertion is correct and the reason is correct and they are interrelated. Response B says that the assertion and reason are both correct, but that they have no causal relationship. Response C says the assertion is true, but the reason is false, D that the assertion is false, but the reason is true and E that they are both false.

My suggestion to you is that it is extremely difficult to envision an E answer in this type of question. To come up with both an assertion and a reason which are plausible, to have them possibly interrelated as well, and yet both be false, is a very difficult thing to do. In fact, response E does not occur with as much frequency on assertion/reason questions as it does on other types of questions (that is, the calculation ones). It does occur, however. Do not assume that it will never be there. If you are comfortable with either an assertion or a reason--you know whether one of the two statements is true--you might want to try answering the question. Your odds are probably better in that the correct answer is going to be one of A through D.

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The way to approach this type of question is to initially ignore the assertion and read the reason statement by itself. Next, make a decision on the validity of the reason and stick with it. Then and only then look at the assertion. If you work backwards, you will feel a lot more comfortable. These are very easy questions for use to write, even though they are not very popular with you.

Moving on to the all-but situation Exhibit 10 (Question 5), if you can identify at least one of the statements as incorrect, you are better off answering this question than omitting it. However, if you know nothing about coinsured whole life participating policies, leave it alone and go on to the next question.

EXHIBIT 10

Question 5

With respect to a coinsured whole life participating policy, which of the following are true?

- I. The insurer's commission on the reinsured portion is reimbursed.
- II. Expense allowances are paid to the ceding company.
- III. The reinsurer participates in policy loans.
- IV. The experience refund provision is allowed.

- (A) All but I
- (B) All but II
- (C) All but III
- (D) All but IV
- (E) All

The last type is what I called the triple true/false, Exhibit 11 (Question 6). The structure of these questions is fairly rigidly established. They will start off with a "With respect to" followed by some sort of clause. In this case, the question deals with differences between individual life and individual health insurance risk selection. Again, if you have not studied individual health risk selection and have no knowledge of it, you might want to go on to the next question because you can get one-fifth of a point for this by omitting it.

You are then given three statements numbered I, II and III. Each of these is either a factual statement or a formula and you are asked to determine the validity of each statement. What you really have are three "true or false" questions.

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EXHIBIT 11

Question 6

With respect to the differences between individual life insurance and individual health insurance risk selection, which of the following are true?

- I. A higher percentage of applications are accepted as standard risks for individual life insurance.
 - II. Impairment exclusion riders are more frequently used in individual health insurance risk selection.
 - III. Hazardous avocations are more important in individual health insurance risk selection.
- (A) I and II only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II and III
 - (E) The correct answer is not given by (A), (B), (C) or (D).

With three "true or false" questions, there are eight possible answers. 1--None of them are true; 2--Only I is true; 3--Only II is true; 4--Only III is true; 5, 6, and 7--Some combination of two statements is true; 8--All three statements are true.

But, we have only five answer spaces to fit these eight possibilities into. What we will do is list combinations in the first four answers as shown in Question 6. This format is the one that discriminates the best. Answer E then says that none of A through D is correct.

Actually, there are four answers in E. But if you assume that since half the answers are in E and therefore that E occurs half the time, you are going to fail, because answer E does not occur half the time. If you assume E is one of five possible answers, and therefore appears a fifth of the time, you are probably going to be surprised also. It appears, statistically, less than a fifth of the time. Now, I am not telling you anything that you could not discover for yourself by going through old multiple choice exams, but I will save you the trouble of doing that.

Answer E occurs somewhere between 15 and 20 percent of the time; it certainly is less than 20 percent. Answers A through D appear, consequently, more frequently. If you can establish the validity of a single item, either it is true or it is false, you ought to answer the question.

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We do, however, attempt to have symmetry in our questions to avoid antiselection of the correct answers. In Question 6, you will notice that roman numeral I appears three times (in A, B and D); II appears three times (in A, C, and D); and III appears three times in (B, C, and D). There is no clue in that as to which of those answers is the correct one. If II were obviously true and appeared in every answer (in fact, we did not use the catch-all answer E), obviously you do not have to look at II. You might assume that II is correct. If II appeared four times, and I were pressed for time, I would assume that II is correct and worry about only I and III.

However, these exams are designed so that some of these strategies will not necessarily be successful.

I will tell you a little about how the multiple choice exams are graded. I indicated earlier that the papers are mechanically graded at a facility in Iowa City. Results are produced that indicate, for each question, how well the candidate population has performed. Papers are also hand graded to make sure that the computer is reading the answer sheets correctly.

We get preliminary statistics on all multiple choice questions; two particular ones are important to us. One tells us how difficult each question was; on a scale of 1-20, 13 is considered to be average. If the candidates' responses or a group indicate that a question is extremely difficult and the exam committee thinks it was extremely easy, we go back and look at that question because maybe we have misunderstood the question or maybe we told the computer that a wrong answer was the correct one.

We also have a discrimination index that is a calculated biserial coefficient of reliability. This will tell us if the good students have performed well on the question and the bad students have performed poorly on the question (that is, we compare the performance on that particular question versus the performance on all the questions by you individually and by all the other candidates taking the exam). If the bad students are getting the question correct and the good students are getting it wrong, one assumption might be that the question, as set, is wrong.

One example from a recent Joint Board exam might be useful. We had an exam question where good students were not answering it, and a high proportion of bad students were getting it right. The question was perfectly valid, but it was a very difficult question that would have taken longer than the average amount of time to solve. The good students recognized the difficulty after they read the question, and decided they were not going to answer it. They got their fifth of a point and went on to the next question. The bad students did not know any better. They started working the problem and some of them got it right because of random guessing. The statistics indicated that that meant the question should not be thrown out. But, at least we had the statistics available to us to make that decision.

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If we have problems with a particular question, especially the essay questions of Parts 6, 7 and 8, we may go back and determine that there is more than one answer. Maybe something has changed since a book was written. For example, in the legal area, maybe the number of jurisdictions that take a particular position has changed over the years.

You will see that in some of the sample exams more than one answer may be coded as correct for a question. If the statistics from exam results indicate such a potential problem with a question, we will review the question and give credit for all possible right answers.

We have been known to actually go into the actual exam books to see if a student has discovered an ambiguity, and how the student demonstrated his knowledge of the ambiguity in writing. You are told that there is no credit given for work done in your booklet. That is a correct statement. However, if you are convinced there is something wrong with a question, you are encouraged to make a notation in your examination booklet and write to us at the Society office (preferably before the results are released). We will reanalyze that question to make sure you are not being penalized for an ambiguity.

We also get computer reports. They give us statistics on the current exam. We compare these with prior exams and we develop a recommended pass mark after adding the points from any essay papers that may be associated with the exam. The part chairman then analyzes these results and recommends a pass mark to the General Officers of the E&E Committee. Point ranges for grades are then determined.

We have run out of time. I encourage you to write us, at the Society office, if you have any comments, concerns or issues you would like resolved about the education and examination system. Within the limitations of a volunteer system, you should hear back from us reasonably quick. We are interested in maintaining a two-way dialogue with students.

