



ACTUARIAL SOCIETY
SOUTH AFRICA

F108

**Health, Social, and
Employee Benefits
Fellowship Principles**

2025

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Course Introduction

1. Course introduction and structure

1.1 Introduction

The aim of Subject F108 – Health, Social, and Employee Benefits Fellowship Principles is to instil in successful candidates the ability to apply, in simple situations, the principles of actuarial planning and control needed for the operation on sound financial lines of providers of health, social, and employee benefits. The course is split into three sections:

- *Part 1: Context.* Here we use knowledge derived from economics, finance, and actuarial practice to consider the roles of the various stakeholders and the context in which benefits are offered.
- *Part 2: Designing solutions.* Here we consider the nature of the risks involved in the provision of health, social, and employee benefits and the various actions the actuary can take to manage the inherent and consequential risks. Again, other disciplines, especially economics and finance, provide significant input here.
- *Part 3: Monitoring experience.* In this section, we show how actuaries measure and monitor health, social, and employee benefits, and how the results can be used to improve their operation in the future.

Part	Chapter	Title	Syllabus objective
1	1	Overview of benefits provision	(c)
	2	Stakeholders and the social protection system	(d)(i)(1) (d)(i)(3)-(5) (d)(ii)(2)-(5) (d)(ii)(9) (d)(ii)(10) except for auditors (d)(iii) (e)(i) (e)(ii)(1)-(2) (g)(vii)
	3	The role of the state	(d)(i)(2), (d)(ii)(6)
	4	The role of the employer	(d)(ii)(1)
	5	The regulatory, tax, and professional environment	(d)(i)(6), (d)(ii)(7)-(8), (d)(ii)(10) auditors, (g)(i)-(ii)
	6	The environment influencing the provision of health, social, and employee benefits	(f), (g)(iii)-(v)
	7	Retirement and social benefits, and related products	(b)(v)-(viii)
	8	Health insurance products	(b)(i)-(iv)
	9	Product and benefit design	(e)(iii), (h)(iv) in part, (k)(i), (k)(iii)-(iv)

2	10	Overview of risks	(h)
	11	Mortality and longevity risk	(h)(iv) considering mortality and longevity risk only (i)(i)-(iii) considering mortality and longevity risk only
	12	Morbidity risk	(h)(iv) considering morbidity risk only (i)(i)-(iii) considering morbidity risk only (o)(ix)
	13	Data and assumption setting	(g)(vi) related to data (h)(iv) considering data, assumption, and parameter risk only (n) (o) data considerations only
	14	Modelling	(g)(vi) related to technology (h)(iv) model risk only (o)(i)-(vi), (o)(viii)
	15	Pricing	(h)(iv) pricing risk only (k)(ii) (n) with a focus on pricing
	16	Investment principles and asset-liability modelling	(l)(i)-(ii)
	17	Setting an investment strategy	(d)(ii)(10) investment managers (h)(i)-h(iii) considering investment risk only (i)(ii) relating to investment risk only (l)(i), (l)(iii)-(iv)
	18	Financing and funding	(j)(i), (j)(iii)
	19	Reinsurance and general risk management	(g)(vi) related to risk management only (i)(i), (i)(iii)
3	20	Principles, purposes, and users of valuations	(j)(ii),(m)(i)-(ii), (m)(iii)(2-5)
	21	Actuarial funding methods and valuations in the retirement context	(j)(iv)-(v), (k)(ii)
	22	Reserving for benefits in healthcare	(j)(v), (m)(iii)(1), (o)(vii)
	23	Monitoring and feedback into the control cycle	(p)
		Glossary	(a)
		Acronyms	
Q&A bank Part 1			
Q&A bank Part 2			
Q&A bank Part 3			

1.2 How to use these notes

Subject F108 is a principles-based subject. This means that the examiners will test your ability to carry out various syllabus objectives. The Subject F108 syllabus is available on the ASSA website and the syllabus objectives are covered in Chapters 1 to 24. Each chapter begins by listing the syllabus objectives covered in that chapter. Certain objectives are covered in more than one chapter.

In each chapter you will find various chapter questions. These are not of exam standard but help you to think and engage with the material. You should attempt each question before referring to the answer, after which you can carry on reading.

As Subject F108 is principles-based, you are not required to know the details of how health, social, and employee benefits work in any one country. However, the principles underlying practices in various countries of the world *are* examinable, and various countries have been used as case studies throughout the notes to enhance your understanding. This country-specific information is put in information boxes. Information boxes may also contain information that is not strictly examinable but adds significantly to your understanding of the examinable content. So, learning information boxes by heart would be unnecessary but we strongly suggest that candidates read them.

Where we have illustrated a concept not using a real-world example from a specific country, we have used example boxes.

Chapters may also contain exam tip boxes. These have been inserted by experienced lecturers, examiners, and markers in order to help you avoid common pitfalls in the examination.

Each chapter ends with a summary. We suggest that you read this study guide and all the chapter summaries before starting to study Chapter 1 as the context this will give you will be very helpful.

At the end of Chapters 1 to 23, you will find a questions and answers bank specific to that chapter. We suggest you do a sample of these questions to test your level of understanding before going on to the next chapter.

Chapter 24 is a glossary. At the end of Chapters 1 to 23, you will find a glossary words list. Words will appear in a specific list because they are appearing for the first time in the course in that particular chapter. Glossary words appear in **bold** on first use. If you study the glossary words at the end of each chapter, you should know the full glossary by the end of Chapter 23.

It is strongly advised that you do not put off learning the glossary until the end of the course.

At the end of each of Parts 1 to 3, we have included a questions and answers bank to help you practice for your exam. These questions test material from the chapters preceding them. The Part 2 questions and answers bank thus also tests material from Part 1 and the Part 3 questions and answers bank covers the entire syllabus.

2. Specimen papers

The specimen papers are designed to provide a reasonable approximation of a past paper for a subject that has undergone a syllabus change and where no past papers are available.

Subject F108 combines elements of the old Subject F101 course and the old Subject F104 course. Some elements from the old subjects have been dropped. However, when a group of examiners ('the specimen examiners') went through the past exam papers from 2021 to 2023, they found that the vast majority of questions in these exams would be relevant for an exam for the Subject F108 course.

Here is a summary of which questions in the 2022 and 2023 exams are relevant to your exam preparation for the Subject F108 course.

Table 1 Relevant questions from 2022 and 2023 examinations

Year	Sitting	Subject F101	Subject F104
2022	June	Full paper but Question 1i may have less emphasis	Full paper except Question 6.1
	November	Full paper	Full paper
2023	June	Full paper	Full paper
	November	Full paper	Full paper

The specimen examiners then used questions from the 2021 past papers to create two specimen papers. You will notice that these two papers have a very different feel to them. This represents the variation in exam papers that could be set by your Subject F108 examiners. Because the specimen and Subject F108 examiners are not necessarily the same people, the specimen examiners felt it was important to give candidates insight into the fact that their Subject F108 exam could:

- Have few questions or many questions
- Have shorter questions or longer questions
- Have more questions representing a blend between the old subjects or fewer.

However, both papers are actually equivalent in difficulty, and both cover most of the syllabus.

The specimen papers include one question on new content and the suggested solutions for all questions include new content. It is entirely possible that you could get one or more questions on new content in the Subject F108 course exam. As always, note that alternative correct and appropriate points may be marked correctly even though they do not appear in the examiners' report.

The specimen examiners also believe that over time the Subject F108 course exam will likely contain more questions that blend content from the old Subject F101 course and the old Subject F104 course.

3. Acknowledgements

The Actuarial Society of South Africa (ASSA) would like to thank the numerous people who have helped in the development of the course notes and in the previous versions of the notes.

In preparing these course notes, use was made of the ASSA Subject F104 notes, the ASSA Subject F101 notes, and lecture material from the Subject F101 and Subject F104 courses offered at the University of the Witwatersrand. ST Walker's forthcoming masters dissertation on retirement reform in sub-Saharan Africa was also used. Efforts were made to align this material with other actuarial topics including those for Subject A311, Subject F102, and Subject F103.

The authors have tried to acknowledge the source of material where applicable.

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5. Preparing for the Exams

Fellowship principles expectations

At the Fellowship Principles level, being successful in the exam requires more than knowledge of the course notes. It is important that you approach the subject with the understanding that your attempt of the exam is where you need to prove your ability to apply your knowledge and think critically.

Levels of learning

To assist candidates to understand the level of learning and knowledge expected from them, the following is provided to set the context. The terms below are called the Bloom Taxonomy. The International Actuarial Society (IAA) also uses the Bloom Taxonomy as a guide to advise how syllabuses should be composed.

The expected depth of knowledge and cognitive capability increases as you move down the list below. The level of the Subject F200 exams will generally be set at the Application, Analysis, Synthesis or Evaluation level. However, you are not required to demonstrate the same level of learning for each outcome and learning objective in the syllabus. This is an indication of the required level of learning to ensure that you focus on the key areas during your studies, or when you work through past papers or other support material.

Knowledge: Candidate recalls or recognises information, ideas, and principles in the approximate form in which they were previously learned. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Examples of learning objectives at this level: know common terms, know specific facts, know methods and procedures, know basic concepts.

Comprehension: Candidate translates, comprehends, or interprets information based on prior learning. Comprehension is the ability to grasp the meaning of material. This may be shown by interpreting material (explaining or summarising), and by estimating future trends (predicting consequences or effects). These learning outcomes go one step beyond the simple remembering of material, and represent the basic or core understanding. Examples of learning

objectives at this level: understand facts and principles, interpret material, interpret numerical data, and translate verbal material to mathematical formulae.

Application: Candidate distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question. Application refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learning outcomes in this area require a higher level of understanding than those under comprehension. Examples of learning objectives at this level: apply concepts and principles to new situations, apply laws and theories to practical situations, solve mathematical problems, and demonstrate the correct usage of a method or procedure.

Analysis: Candidate breaks down material into components, understands organisational structures and the relationships of parts. Analysis refers to the ability to break down material into its component parts so that its organisational structure may be understood. This may include the identification of parts, analysis of the relationship between parts, and recognition of the organisational principles involved. Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material, and the ability to look behind the facts and assumptions. Examples of learning objectives at this level: recognise unstated and implicit assumptions, recognise logical fallacies in reasoning, distinguish between facts and inferences, and identify the relevancy of data.

Synthesis: Candidate originates, integrates, and combines ideas. Synthesis is the ability to put parts together to form a new whole. This may involve the production of a unique communication, a plan, or a set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviours, with major emphasis on the formulation of new patterns or structure. Examples of learning objectives at this level: 'propose a plan for ...', 'integrate learning from different areas into a plan for solving a problem', 'formulate a new scheme for ...'

Evaluation: Candidate appraises, assesses, or critiques on a basis of specific standards and criteria. Evaluation has to do with the ability to judge the value of material for a given purpose. Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all the other categories, plus conscious value judgements based on clearly defined criteria.

Studying for the exams

Study tips – How to effectively plan your studies

As a result of the overwhelming amount of material, one frequently asked question among candidate actuaries is for a good study method. Different people process information in different ways, and candidates need to develop their own learning style.

That being said, there are a few common factors in most successful study techniques and additional resources that can be helpful.

- **Start early. Do not under estimate the time it takes to master the notes**

Plan, be realistic, building in time to relax, and manage risks such as work pressure and demands at home. As far as possible, identify busy times at work, plan around it, and stick to your plan.

- **Syllabus and course notes**

This syllabus will outline the material that will be covered in the exam, which will give you a good idea of what to study and what not to study. Read the syllabus and read the summary of each chapter to set the scene.

Read the notes in detail, make your own summaries, and familiarise yourself with the concepts.

Set up a checklist of the expected outcomes from the syllabus. An awareness of the different concepts will help you to start developing a deeper understanding.

- **Research and read wider and be aware of current topics**

Get into the good habit of checking for industry updates and circulars and keep up to date with current topics. You need to know the material and develop a deep understanding of all topics in the syllabus. You need to apply the material learned to assimilate an answer that is relevant to the question. The course notes have an adequately in-depth explanation for most topics, so spend time to challenge what you read.

- **Key issues (major and minor points)**

As a practicing actuary you need to develop the ability to identify the key issues and themes relating to a particular task and to separate these key issues from minor or supporting points. The ability to clearly identify and summarise key issues and conclusions is a necessary component of successful exam technique. These skills require ongoing practice.

Professional actuarial practice requires the application of knowledge and principles to new situations. You are strongly encouraged to discuss the material with others—colleagues, fellow candidates, and/or mentors, for example—as this will help you to develop a deeper appreciation of the content as well as alternate perspectives and interpretations. You are therefore encouraged to form your own study groups and utilise the additional support provided by tutorials.

- **Review and reflect**

Candidates are expected to actively review and reflect on the materials and concepts introduced in the course. Candidates are expected to develop and ultimately demonstrate the critical thinking required of a professional actuary.

- **Revision and practice**

Allow for enough time to revise the material, and to synthesise and internalise the different concepts. The elusive higher order thinking skills require time and reflection.

Do not be disheartened by the examiners' reports when practising questions. This gives you an opportunity to identify development areas.

Guidance on study hours and examination preparation

An in-depth understanding of the course notes is expected from successful candidates and may require many hours of independent study. The required number of hours each candidate needs to spend on a particular subject will vary from candidate to candidate. Quality of study time is more important than quantity of study time. The following minimum guidelines are suggested:

Fellowship principles subjects (Subjects F101 to F105): 400 hours per fellowship subject

This course will require a lot of commitment and time in order for you to complete it successfully and it is important that you manage your study plan and time properly.

Further study tips

- Manage stress. Proper planning and sticking to your study plan, will assist in lowering stress levels. Being a working candidate has its own challenges. Stress can also be counterproductive and you need to stay focused and motivated.
- Know when you study the best. Some people find that they study better if they study in the morning and go to work in the afternoon. Others find it better to study a whole day, as getting to and from work is a distraction. You need to decide what works best for you. The important point is *not* to waste your study leave.
- Write down your concentration time, for example, if you start studying at 8:12 and at 8:15 you need a coffee break, you have only studied for 3 minutes. You will often find that you may have sat at your desk for a whole day, but your concentration time was only a few hours. The discipline of writing down your times, and forcing yourself to target a minimum number of hours a day, would greatly improve efficient use of your study time.
- Reward yourself once you have studied the required time, for example, 8 hours for the day with some leisure time.
- Try and complete your studies about 4 weeks before the exam. By completing early, you give yourself enough time for revision and for more attention to areas that you need more work or clarity on.
- Fresh air and exercise are important, and help to improve concentration.
- Study *hard*—there is no easy way to get through the exams.
- Practise exam questions *under exam conditions*. Do not read through the answer and think: “I would have said that”.

Examination process

- The examinations are governed by the Board of Examiners and are subject to a rigorous process to ensure we meet certain required standards. The South African exams conform to the UK standards both in the setting of papers and marking of scripts.
- An examination team, consisting of a principal examiner, second examiners, markers, scrutineers, and guinea pigs set the exam papers. The principal examiner will be a member of the Board of Examiners and accountable to the chairman of the board.
- The examiners for a subject set the paper and discuss the questions with each other and also with the chairman of the Board of Examiners.
- Once the paper is prepared, some guinea pigs (recently qualified actuaries) write the paper under exam conditions. This helps to make sure that the questions are not misleading, that the paper is fair, and that it follows the syllabus.
- Other members on the examination team scrutinise the paper. In addition, the examiners meet to discuss papers in all the subjects, as well as feedback from the guinea pigs and scrutineers. Only then are papers finalised.

- Once you have written the exam, two people mark your paper independently. Once the marking is completed, the papers are discussed and any differences in marking are reviewed.
- If you then fall in the borderline category, your paper will be marked a third time. In some cases, the script is referred to an external examiner for a further review.
- Once all the scripts have been marked, a pass mark is decided on and a decision is made on who passes and who does not. This pass mark is heavily influenced by whether the examiners are comfortable that the candidates who pass are competent to practice as fellows.
- The recommendations then go to the Board of Examiners. As the number of candidates is still small, borderline candidates are currently discussed individually.
- The papers and marked scripts are reviewed by other international actuarial bodies to benchmark our examination process against international standards.

Exam technique

To be prepared, you should know what the examiners want, and that is to prove your knowledge and to demonstrate understanding of the syllabus (refer to the section on higher order thinking).

When writing the paper be concise

- There are no marks for rewriting or paraphrasing the question.
- Omit rephrasing the question in a preamble.
- Use bullet points where this makes sense.
- The best scripts are less wordy. Candidates who write a lot often tend to run out of time, and as a result struggle to achieve good marks. Also, the script does not have to contain all the detail contained in the model solutions, as this detail is shown to help future candidates prepare for the exam.
- The questions do not have irrelevant facts in them. You need to decide which facts are most important and how to use them in your answer.
- Be guided by the allocation of marks to plan your attempt for each question and for the paper overall.

Strengthen your answer

- Define your terms.
- Give examples where appropriate to strengthen your answer.
- Display understanding of 'order of magnitude', that is indicate in your answer if one factor is more important than the others, or if a particular set of circumstances will have a greater impact or not, and so on.
- Quote formulae where relevant.
- Give a balanced view.
- For clear bookwork questions, reproduce the course notes verbatim.

Save time

- For written scripts, do not rule off after each answer and minimise the use of different colour pens.

- Do not underline a lot of words.
- Do not make disparaging comments about the question—it irritates the examiners and does not award you any marks.
- *Manage your time.* If there are 10 marks, it means you have 18 minutes to spend on the question. While theoretically, you could pass by doing very well on most questions and not completing all questions, it is the examiners' experience that this approach does not work and almost all candidates following this approach fail.
- You may use bullet points. The examiners should be able to understand the point you are trying to make. However, do not give cryptic clues—make your points clearly.
- Try and keep your work neat. The examiners do not penalise sloppy work or bad handwriting. However, if they cannot read what you have written, they cannot give you marks for it.
- Understand the question (referring back to Bloom Taxonomy):
 - **List** typically a sequence of names (for example, mortality, interest ...)
 - **State** list with a sentence or two of explanation
 - **Explain** define and explain
 - **Outline** state with brief explanation
 - **Discuss** give a balanced view of points in the discussion, looking at both sides of the coin, and then state your position.
- Read each question carefully and *answer the question*. If the question asks for effects on the policyholder, you are only wasting your valuable time to talk about effects on government or the insurer, etc.
- Answer all parts: for example, "State, giving reasons why ..." means that there are marks for stating, and additional marks for the reasons.
- The examiners are not deliberately trying to trick you. If you think that they are, you are probably misinterpreting the question.

Simple errors

- Check that you have included words like 'not' where appropriate—they change the meaning of your answer.
- Do not repeat the question in your answer. There are no marks for repeating the question and you are wasting your valuable time.
- Put the (right) question number at the top of the page.
- If you are asked for 'differences', there are no marks for 'similarities'.
- Stick to conventional wisdom—an exam is not the place to introduce your novel arguments. However, in many questions there is no single 'right' answer. If your answer differs from the marking schedule, and you give good reasons and justification for your view, and these are valid, you will get the marks.
- Do not use shorthand.

Other suggestions

- Start each new question on a new page, and make your numbering clear.
- Follow the exam instruction page, such as "Do not write your name or Member No. on the question paper—only candidate number".

- State the obvious (for example, Option B provides the higher benefit.). Part of working as an actuary is to understand what is important and what is not. Show that you can do this by starting your answer with the most important points and only moving to the ancillary or obscure points once you have covered all the important issues.
- Get the follow-up marks (for example, Option B provides the higher benefit *because ...*).
- If your answer to a numerical question seems wrong, demonstrate your understanding by saying so (and why).
- Do the questions you expect to score highly on first, but bear in mind that it is marginally easier to mark a booklet in which the questions are done in numerical order.
- Often it is $\frac{1}{2}$ mark for each point, but do not omit valid points. In 'list' questions, there are sometimes $\frac{1}{4}$ marks—this typically happens when each point or factor consists of one or two words.
- The first few marks are easier to get than the last few, so always do all the questions.
- Time management is crucial—be ruthless with yourself.
- Tick the questions on the exam paper as you attempt them to avoid inadvertently omitting one.
- Use the reading or planning time effectively. 'Mind map' all the questions before you write out any answers—also, points generated for one question can often be used in another.
- Hand in your rough work (mind maps, etc.)—it is most unlikely to lose marks and you may gain some.
- Questions get recycled, but usually with a twist. Practising old questions under exam conditions is a proven method of preparing for exams. But please avoid giving last year's answer to this year's question.

6. Other support offered by ASSA

All support is offered per semester and advertised via the society website and email notifications.

- **Tuition courses**

Tuition and content practice exam (CPE) requirements and dates will be communicated at the start of each semester.

- **Candidate counselling**

Examiners review the attempt of a candidate and prepare a report addressing areas where candidates need to focus. A face-to-face session (when possible) is conducted where the counsellor and candidate discuss the exam attempt and guidance is provided.

- **Past exam papers**

It is recommended that you practise past or specimen papers available on the website (link). Similar to the CPE, a past paper can be used as a formative assessment. The benefits of attempting an exam and marking it afterwards provide you with a tool to identify gaps that still need further attention. It also gives exposure on how to answer exam-style questions. Ask peers or colleagues to mark your attempts and to provide honest feedback.

7. Queries and feedback

ASSA have high regard for the quality of its notes and have embarked on a strategy of updating the notes. If you have any feedback please contact us on: courses@actaurialsociety.org.za

Feedback can include: errors, contradictions, any additional development, upgrades or suggestions.

8. Syllabus

Aim

The aim of Subject F108 – Health, Social and Employee Benefits Fellowship Principles is to instil in successful candidates the ability to apply, in simple situations, the principles of actuarial planning and control needed for the operation on sound financial lines of providers of health, social and employee benefits.

Links to other subjects

The foundation and intermediate technical subjects provide principles and tools that are necessary in this subject.

Subject A111 — Actuarial Statistics: provides a basic grounding in statistics.

Subject A112 — Business Economics: provides some of the macro-economic context.

Subject A212 — Risk Modelling and Survival Analysis: covers some stochastic models used in this subject.

Subject A213 — Life Contingencies: introduces candidates to the concept of benefit schemes.

Subject A214 — Loss Reserving and Financial Engineering: introduces candidates to important reserving concepts such as run-off triangles.

Subject A311 — Actuarial Risk Management: covers the general underlying principles affecting all specialisms.

Subject F201 — Health and Care Specialist Applications: the aim of the Health and Care Specialist Applications subject is to provide successful candidates with the ability to apply knowledge of the South African health and care environment and the principles of the actuarial practice in the provision of health and care benefits in South Africa.

Subject F204 — Retirement and Related Benefits Specialist Applications: uses the principles in this subject to solve complex problems, produce coherent advice and recommendations within a specifically South African context.

Objectives

- (a) Define the principal terms used in the provision of health, social and employee benefits.
- (b) Describe how health, social and employee benefits can be provided by the state and private sector and on a group and individual basis, specifically for the following:

- i) Private medical insurance;
 - ii) Critical illness insurance;
 - iii) Long-term care insurance;
 - iv) Major medical care;
 - v) Retirement and group risk benefits;
 - vi) Other employee benefits;
 - vii) Other (social) benefits; and
 - viii) Other state-provided benefits.
- (c) Explain the concepts of equity, solidarity, mutuality and risk sharing in health, social and employee benefits.
- (d) Identify and describe the stakeholders in the provision of health, social and employee benefits, specifically:
- i) Explain the role, motivations and responsibilities of the following stakeholders in terms of public benefit provision:
 - (1) Taxpayers;
 - (2) The state;
 - (3) The public;
 - (4) The private sector;
 - (5) Healthcare providers; and
 - (6) The actuary.
 - ii) Explain the role, motivations and responsibilities of the following stakeholders in terms of private benefit provision:
 - (1) The employer;
 - (2) The sponsor;
 - (3) The member;
 - (4) Healthcare providers and managed care organisations;
 - (5) The trustees;
 - (6) The state;
 - (7) The regulator;
 - (8) The actuary;
 - (9) Trade unions; and
 - (10) Other service providers, including auditors, advisors, administrators, insurers, investment managers, human resource specialists and reinsurers.
 - iii) Explain how a public-private partnership may be used to deliver benefits.
- (e) Discuss different types of health, social and employee benefits systems, their appropriateness for different circumstances and the implications for various stakeholders. In particular:
- i) Describe the various multinational models that are used to describe benefit provision and funding;
 - ii) Explain the components of a well-functioning healthcare system, including:
 - (1) Classification of primary, secondary and tertiary care; and

- (2) Key supply-side providers
- iii) Explain the considerations in defining benefit priorities.
- (f) Discuss the demographic influences which affect the demand for health, social and employee benefits, in particular:
 - i) The main types of population structures;
 - ii) The implications of different types of population structures on the provision of publicly funded benefits in terms of both asset and liability effects;
 - iii) The causes and trends relating to ageing populations and the impact of ageing populations on benefit systems; and
 - iv) The impact of health shocks on population structures and the impact on benefit systems.
- (g) Discuss the environment in which health, social and employee benefits are provided, including but not limited to:
 - i) Regulatory and taxation regimes;
 - ii) Professional guidance;
 - iii) Economic and political influences;
 - iv) Disease burden;
 - v) Medical advancement;
 - vi) Technology; particularly for risk management, data and modelling; and
 - vii) Distribution channels.
- (h) Describe the risks that affect the provision of health, social and employee benefits; in particular the categories of:
 - i) Market;
 - ii) Credit;
 - iii) Liquidity;
 - iv) Business, including insurance;
 - v) External; and
 - vi) Operational risk.
- (i) Describe how the risks identified in (h) can be managed including the impact and implications for various stakeholders in the provision of the benefits described in (b), with particular reference to:
 - i) Risk transfer, including reinsurance;
 - ii) Risk reduction, including for example in investments and product or benefit design; and
 - iii) Other risk management techniques.
- (j) Discuss the options available for the financing and funding of health, social and employee benefits; in particular:
 - i) Identify and describe the financing options available to the state, employer, member and sponsor and identify the risks inherent in each;
 - ii) Outline the various reasons for valuing liabilities and the implications for the valuation basis;

- iii) Discuss the main funders of healthcare and the main healthcare funding models;
 - iv) Describe and apply the main funding methods which can be used by a defined benefit fund; and
 - v) Describe how funds can ensure that they have sufficient funds to meet the expenses of the fund and other unforeseen cash flows.
- (k)** Design suitable benefit plans to meet the needs of various stakeholders, and assess the design outcome and suitability of various benefit designs, in particular:
- i) Assess designs in terms of their risk transfer and management and hence their expected outcomes for various stakeholders;
 - ii) Analyse and calculate the cost of employment related benefits which form part of the remuneration package;
 - iii) Identify the needs of various stakeholders and propose benefit solutions that meet those needs; and
 - iv) Identify and describe the risks addressed or created by applying various policy levers including, for example, fee caps, standardised benefit designs, incentives and benefit minima and maxima.
- (l)** Discuss the use of investments in health, social and employee benefits, and in particular:
- i) Describe the principles of investment underpinning health, social and employee benefits;
 - ii) Describe how an Asset/Liability Model (ALM) can be constructed, and how such a model can be used to determine an appropriate investment strategy;
 - iii) Describe the options available to savings vehicles in developing appropriate investment strategies with or without individual investment choice; and
 - iv) Discuss the considerations an individual would need to take into account when developing an individual investment strategy.
- (m)** Understand the importance of financial reporting in health, social and employee benefits and in particular:
- i) Analyse and interpret relevant financial statements and actuarial valuations, including solvency margins and solvency assessment.
 - ii) Understand the principles of performing valuations. This objective covers:
 - (1) Risk-based capital techniques;
 - (2) Risk-based capital, explicit margins and strength of basis;
 - (3) Active vs passive approaches to valuations; and
 - (4) The interplay between the strength of the supervisory reserves and the level of solvency capital required.
 - iii) Describe the process of completing an actuarial valuation, considering its purpose. This objective covers:
 - (1) Statistical vs case estimates;
 - (2) Setting assumptions;
 - (3) Consistent valuation of assets and liabilities;
 - (4) Market consistent valuations; and
 - (5) Sensitivity analysis.

- (n) Describe the assumptions that are crucial to actuarial work in this field such as pricing, contribution setting and valuations, including but not limited to:
 - i) Morbidity;
 - ii) Mortality;
 - iii) Persistency;
 - iv) Claim amount;
 - v) Expenses;
 - vi) Inflation;
 - vii) Investment return; and
 - viii) Profit requirements.
- (o) Describe the principal modelling techniques appropriate to health, social and employee benefits, including data implications. This includes:
 - i) Objectives and basic features of a model;
 - ii) Uses of models;
 - iii) Multi-state modelling;
 - iv) Comparison of formula and cashflow approach;
 - v) Sensitivity analysis;
 - vi) Deterministic and stochastic models;
 - vii) Outstanding claim provision;
 - viii) Generalised linear models; and
 - ix) Risk adjustment and risk monitoring techniques.
- (p) Describe the principles by which experience is monitored as the last step of the actuarial control cycle, including:
 - i) Reasons for monitoring and use of results, including the analysis of surplus and embedded value profit;
 - ii) Data required; and
 - iii) The process of carrying out various experience investigations including those into:
 - (1) Participation rates;
 - (2) Withdrawal and state-transition rates;
 - (3) Mortality;
 - (4) Morbidity;
 - (5) Expenses;
 - (6) Investment performance;
 - (7) Salary inflation; and
 - (8) Healthcare cost inflation.

End of Syllabus