

# INSTITUTE AND FACULTY OF ACTUARIES

## EXAMINATION

2014

### Subject CA3 – Communications

#### Paper 1

*Time allowed: 1 hour 30 minutes + 15 minutes reading time*

#### **INSTRUCTIONS TO THE CANDIDATE**

- 1. You have 15 minutes before the start of the examination in which to read the question. You are strongly encouraged to use this time for reading only, but notes may be made. You then have 1 hour 30 minutes to complete the paper.*
- 2. The work you submit MUST be saved in Microsoft Word 2007 format, e.g. using the docx file extension. You may only upload one document and you must not embed files in the document.*
- 3. Copies of the Formulae and Tables, Core Reading for subjects CT1–CT8 inclusive and CA1 will be available electronically during the exam. These documents are for use during the exam period only and not for general use. No other material can be referred to.*
- 4. In addition to this paper you should have available your own electronic calculator from the approved list, <http://www.actuaries.org.uk/research-and-resources/documents/exam-policies>*
- 5. You are not permitted to use the internet to help you during the exam.*
- 6. You are required to work through the exam assignment without assistance from another person. You are reminded that by undertaking this exam you are bound by the Institute and Faculty of Actuaries' Examinations Rules and Regulations. By submitting your files you are confirming that all the material is entirely your own work and you wish this to be taken into account for this assessment. Only the first submissions will be accepted.*
- 7. Save your work regularly. Saving your work is your responsibility so failure to do so will not be a significant mitigating circumstance. Do NOT log off the application until you receive confirmation of receipt from the Online Education Team.*
- 8. At the end of the examination, save your completed assignment and follow the upload instructions that have been provided. Once the exam is over all related material and notes made during the examination must be destroyed.*
- 9. If you encounter any difficulties please email [online-exams@actuaries.org.uk](mailto:online-exams@actuaries.org.uk) or telephone the Online Education Team on +44 (0)1865 268255.*
- 10. Professional behaviour is mandatory and no material relating to the exam may be disclosed or discussed with others, nor used in a further attempt at the exam. Failure to comply with this will be deemed to be a breach of the examination regulations and may result in disciplinary action.*

**PLEASE NOTE THAT THE CONTENT OF THIS PAPER IS CONFIDENTIAL AND STUDENTS ARE NOT TO DISCUSS OR REVEAL THE CONTENTS UNDER ANY CIRCUMSTANCES.**

You are an actuarial student at ABC Motor Insurance Company. The Customer Services Department has received the following letter from a policyholder.

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Customer Services  
ABC Motor Insurance Company

1 August 2014

Dear Sirs,

Ref: ABC Motor Insurance Company – Policy Number B5200367

I am an older careful lady driver who added my grandson onto my car insurance policy when I last renewed it. He had a learner driver licence and I was very happy for him to practise in my car in return for him taking me on local outings during the day. He's been getting on really well and passed his driving test last week. I informed you that my grandson had now passed his driving test (as instructed in my policy documents) but I have now received a letter saying that I need to pay an additional motor insurance premium of £250 in order for him to remain on my policy. My grandson is clearly a good driver as this was his first attempt at taking his driving test and he passed straight away.

I am sure that there has been some mistake as I would expect if anything a refund of the £420 premium I have already paid for the year due to the fact that my grandson is now no longer a learner driver. I therefore think there must be an error in your calculations.

Please could you review and get back to me urgently as I want my grandson to be able to continue to drive me around during the day. I would also like to be able to let him use the car to take his nephew to and from nursery school.

Yours faithfully,

Mrs S Patel

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Your manager has asked you to draft a suitable response to Mrs Patel in about 600 words.

He has suggested that your response should include the following details:

- A brief explanation of why premiums go up after someone has passed their driving test
- Premiums are likely to drop once the driver has demonstrated good driving experience. (He has suggested you include one suitable statistic to demonstrate this.)

He has also suggested that Mrs Patel may be a good candidate for the “ABC Daytime Motoring Monitor” telematics trial which has just been introduced and he has asked you to include the main relevant details in your response. Relevant details include the reduction in premium, together with brief practicalities on both the telematics box being fitted and the additional monitoring information provided to telematics box policyholders. He has also asked you to remind Mrs Patel that her grandson shouldn't be driving her car until she has decided on the level of cover she wants (i.e. additional premium or additional premium with the telematics box).

To assist you in providing a draft response a junior actuarial student in your department has provided you with the following details. For the purposes of answering this question you may assume that all the information provided is correct.

### 1. Mrs Patel's policy

Policy number	B5200367
Estimated annual usage	5,000 miles
Location vehicle kept overnight	On private driveway
Current premium (including grandson on provisional licence)	£420 for the year
Increased premium (additional named driver (grandson) has passed driving test)	£670 for the year (= current premium (£420) + <b>£250 for the rest of the policy year</b> )
Adjusted premium (additional named driver has passed driving test and with telematics box fitted)	£570 for the year (= current premium (£420) + £250 – <b>£100 (telematics box saving)</b> )

### 2. Premiums increasing following named drivers passing driving test

A driver with a learner driver licence (a “provisional” licence) is required to be accompanied at all times (whilst driving on a public highway) by a driver who has a full licence and is over a minimum age of 21. Drivers with provisional driving licences are not permitted at any time to drive on major roads with higher speed limits such as motorways, freeways or highways. Increases in motor insurance premiums are required following provisional drivers successfully passing their driving test to allow for the increased actuarial risk of accidents. Premiums decrease in future years if no accidents are reported as demonstrated by the information provided in the following table (which contains grouped data).

<i>Age of driver</i>	<i>Years full driving licence held <math>F(0)</math>, <math>F(1)</math></i>	<i>Additional Premium*</i>	<i>Premium change <math>F(0) - F(1)</math></i>
17–22	0	£372.57	n/a
17–22	1	£292.21	£80.36
22–27	0	£260.63	n/a
22–27	1	£181.29	£79.34
27 and above	0	£181.25	n/a
27 and above	1	£101.04	£80.21

\* when converting from an additional driver (with a learner driver licence) to an additional driver having passed their driving test.

$F(0)$  = Full driving licence held for zero years.

$F(1)$  = Full driving licence held for one year.

Further reductions take place in insurance premiums for up to five subsequent years that a full driving licence has been held although these reductions drop off exponentially.

### 3. ABC daytime motoring monitor system (telematics box)

The telematics system transmits full data regarding the times of usage of any vehicle registered as taking part in the telematics box insurance scheme to ABC Motor Insurance Company via the ABC unified monitoring system.

The terms of the system are that the vehicle is not driven between the hours of 11 pm and 4 am. Drivers who comply with these terms are able to obtain a reduced motor insurance premium. The reduction in premium is set to be a saving of £100 compared to the standard premium under the policy, where the policy includes an additional named driver under age 30. The reduction in premium is forfeit if the time restrictions are breached at any time. So, for example, a policy for a vehicle covered by the telematics policy where the statistics show that the insured vehicle was being driven at 11.01 pm is immediately required to pay the balance between the reduced premium and the standard premium.

To enable policyholders to fully understand how the telematics box is fitted to their vehicle ABC Motor Insurance Company has produced a detailed leaflet which includes the following general information:

- fitting times for telematics box = < 1 hour (in 99.95% of cases)
- venue for fitting of box = option of policyholder's driveway or public highway
- cost to policyholder of fitting the telematics box = £0.00
- failure rate of telematics boxes once fitted = 0.003% (based on 10,000 boxes fitted to date)
- ABC provides stickers to remind policyholders and users of the prohibited times when the vehicle shouldn't be used. (It is suggested that these stickers are placed in a prominent position in the vehicle.)
- detailed statistics of times and dates (with times shown as mm/hh and dates shown as dd/mm/yyyy where 05/11 and 01/02/2015 is 5 minutes past 11 am on the first of February 2015) of the vehicle usage are provided every calendar month to the policyholder

**END OF PAPER**