INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

3rd November 2008

Subject SA3 -General Insurance

Time allowed: Three hours (9.45* - 13.00 Hours)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. Please read the instructions on the front page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception

2. * You have 15 minutes at the start of the examination in which to read the questions. You are strongly encouraged to use this time for reading only, but notes may be made. You then have three hours to complete the paper.

3. You must not start writing your answers in the answer sheet until instructed to do so by the supervisor

4. The answers are expected to be India Specific application for the syllabus and corresponding core reading. However, substantially the core reading material is still taken from material supplied by Actuarial Education Company which are meant for UK Fellowship examination. The core reading also contains some material which is India Specific, mostly the IRDA regulation. In view of this, it should be noted that focal point of answers is expected to be India Specific application. However if application specific to any other country is quoted in the answer the same should answer the question with reference to Indian environment.

5. Attempt all questions, beginning your answer to each question on a separate sheet.

6. Mark allocations are shown in brackets.

AT THE END OF THE EXAMINATION

Please return your answer book and this question paper to the supervisor separately.

Q. 1) Your company is a large global insurance group and you are working as the reserving actuary of their XYZ small joint venture general insurance company with the local partner in India writing just private medical insurance. Your company uses an annual basis of accounting and the latest financial year ended on 31 March 2008. The global parent requires an estimate of the anticipated loss and combined ratios for the year-end accounts. You have also been given the following information:

	Financial Year ending 31 March
Year	Gross Written Premium (lacs of Rs.)
2001	355.34
2002	373.11
2003	391.76
2004	411.35
2005	431.92
2006	453.51
2007	476.19
2008	500.00

The reported incurred triangle as at 31 March of every year is:

Accident Year/Development Year	0	1	2	3	4	5
2002	303.40	364.08	363.44	361.44	356.94	356.94
2003	321.82	386.18	385.11	383.11	380.81	
2004	348.15	417.78	416.09	414.09		
2005	390.64	468.77	466.08			
2006	297.28	356.74				
2007	396.34					

a) There has been poor risk selection with a large influx of unprofitable business. The underwriting and marketing departments introduced changes to the policy cover effective 1st July 2006 as follows:
   - Increased excess for hospitalisation expenses from Rs. 2,500 to Rs. 5,000 – expected to reduce claims cost by 10%.
   - New exclusion of certain diseases due to pre-existing conditions in the first 3 months – expected to reduce claims cost by 10%.
   - Additions to cover on medical tests, physiotherapy and increasing the limit – expected to increase claims cost by 5%

b) Government statistical department has published a report recently stating that the medical costs of treatment have been increasing at 10% per annum.

c) In October 2006, a certain kind of virus has been diagnosed to spread certain diseases up to 6 months.

d) Gross Written Premium has been increasing at 5% per annum.

e) The Indian General Insurance Company does not purchase any reinsurance and is well protected by the guarantee from the global parent.

f) Acquisition costs amount to 3% of Written Premiums.

g) Additional operating expenses of 12% of premiums are incurred uniformly during the policy exposure period.

h) Claims handling expenses have been at 3% of claim amounts.

A) Describe briefly the factors that the insurer would consider when deciding whether or not to increase the excess. (7)

B) Why do insurers add 'Exclusion Clauses' in their policy wordings? (5)

C) Describe briefly the main stages in the life cycle of a medical claim. (3)

D) A review of the claims data reveals that the time it takes to settle a claim once it has been reported has increased over the last 6 months. What would you ask of the Claims Department to better understand this trend? (2)

E) The company uses the chain-ladder method for financial reporting purposes. Calculate the expected accident year loss ratio and combined ratio for each of the accident years from 2002 to 2008 after allowing for (a) to (h) above; detailing any assumptions you make. (23)

F) The Company is considering offering this insurance as a scheme to the 'All India Teachers' Association' and also to a large industrial company across the country. How do you expect the experience of these two schemes to differ from the general offering? How would you adjust the premium rates of these two schemes? (10)

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Q. 2) ABC general insurance company is 5 years old and writes mainly motor, fire and other miscellaneous classes. After the recent detariff by the Indian Government and competition from 1 April 2008, the premium rates are expected to reduce by

- -20% in Motor,
- -30% in fire and
- -10% in Miscellaneous.

Now, ABC general insurance company has aggressive plans to grow each of its existing businesses at 25% per annum over the next 3 years and is also considering entering the travel medical insurance market. You have been asked to draw up a business plan by your Marketing and Underwriting Departments. The market research reveals that there is a huge untapped market for the typical 5-week travel medical insurance policies. The marketing department has also identified that there is a big potential market from business development executives of Indian IT companies who visit a wide range of countries throughout the year.

A) Considering the information given above, describe what would you include in your report to your Managing Director under:

- Risk characteristics of the travel insurance
- Product features required
- Product distribution
- Pricing methodology
- Proposed financial strategy including Capital and Reinsurance requirements and Investment policy
- How do they differ from the existing portfolios? (27)

B) What are the factors that the company should consider when deciding on the capitalisation before entering the new travel medical insurance market and 25% growth per annum on the existing classes of business? (10)

C) The financial year end for your company is 31 March and the proposed entry to travel medical insurance market is 1 April 2009. The following has been drawn by you with the help of Marketing, Underwriting and Claims Departments:

- In the first 12 months, 30,000 annual policies costing Rs.100 a policy (policies designed for business development IT executives) and 5,00,000 policies with a 5-week term (typical travel insurance policy for all) costing Rs.500 a policy are expected to be sold.
- The marketing initiatives expect to generate 15% growth per annum in business volumes.
- The business plan drawn up by the marketing and underwriting departments suggest a claims ratio of 55%.
- The entire business plan has been drawn including an agreement with GIC to cede 45% quota share reinsurance.

The financial information as at 31 March 2008 is as follows:

	As at 2008 (Lacs of Rupees)			
	Motor	Fire	Miscellaneous	Total
Gross Written Premium	40,000	55,000	25,000	120,000
Net Written Premium	21,000	27,500	18,000	66,500
Gross Earned Premium	32,500	47,500	12,500	92,500
Net Earned Premium	17,063	23,750	9,000	49,813
Gross Claims Paid	13,000	25,500	3,500	42,000
Net Claims Paid	6,825	12,750	2,520	22,095
Gross Claims Outstanding	15,000	22,750	5,250	43,000
Net Claims Outstanding	7,875	11,375	3,780	23,030

(13)

Calculate the required solvency margin as at 31 March 2009, 31 March 2010 and 31 March 2011.

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