

# Institute of Actuaries of India (IAI)

## Actuarial Education

***Indian Actuarial Profession***

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***Serving the Cause of Public  
Interest***

29/5/2012

# Who is an Actuary?

An **actuary** is a business professional who deals with the financial impact of risk and uncertainty. Actuaries provide expert assessments of financial security systems, with a focus on their complexity, their mathematics, and their mechanisms (Trowbridge 1989, p. 7).

Actuaries mathematically evaluate the likelihood of events and quantify the contingent outcomes in order to minimize losses, both emotional and financial, associated with uncertain undesirable events. (**Wikipedia**)

# Is an Actuary a fortune teller?



We are experts in evaluating the likelihood of future events—using numbers, not crystal balls. Practitioners of actuarial science can calculate how long it will take before a bridge will need to be replaced to how many times a gambler will need to pull that lever on the slot machine before the jackpot payout.

# Is an Actuary a professional gambler?



The problems are often more complex and more intriguing than Las Vegas.

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# What does an Actuary do?

# Car insurance



**If you have a car, you would have a car insurance.**

**How old are you? How old is your car? With every successive year, as the car ages, the value of the car will also go down.**

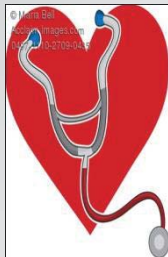
**How does the rising price of petrol effect your usage of the car?**

**What is the popularity with thieves, cost to repair etc.**

**All these and more factors are considered by the actuary when pricing auto insurance**



# Planning for present and future



Actuaries try to strike a balance between designing and pricing products so that company has enough money to run business and has enough business to continue running!!

Life insurance – actuaries help design products, price them.

Pension –

Mortgage –

Credit insurance –

Health insurance - In the same way that a health insurance company assists customers to plan for unforeseen events, the actuary function helps insurance companies understand their risks and plan for their futures accordingly

# Very recently...



**Costa Concordia** (capsized on on Jan.13, 2012) may become the biggest maritime insurance case involving as much as \$1billion or even more. The ship was insured \$513 million by insurance companies including XL and RSA



# And in the future ..



**Climate change - Actuaries help understand climate change risks and the potential liabilities due to changes in environment**

# Actuarial Work space

1. Health and Care Insurance
2. Life Insurance
3. General Insurance (non-life or P&C)
4. Pensions & Other Employee Benefits
5. Finance
6. Investment
7. Enterprise Risk Management (ERM)
8. Academics
9. Regulatory
10. Others

# Actuarial Workspace within India

## Domestic work

- **Insurance companies:** Life (24), Non-life including Health (24).
- **Reinsurance companies:** SwissRe, MunichRe, RGA, HannoverRe, GenRe.
- **Consulting:** MNCs such as Tower Watson, Mercer, Milliman and some Indian Consulting firms.

## Off shored work

- Some 30 Units across India employing about 1000+ actuarial work force;
- **Work domain:** Pensions, Life Insurance, P&C, Solvency II
- **Organizations:** Deloitte, WNS, Genpact, AonHewitt, Towers Watson, Swiss Re, E&Y and others..

# How does one become an actuary?

# Being an actuary

- Requires passing examinations to earn an actuarial designation
- One has to become a student member of an actuarial body before starting the exams. Some of the actuarial bodies are:
  - Institute of Actuaries of India (IAI), [www.actuariesindia.org](http://www.actuariesindia.org)
  - Institute and Faculty of Actuaries (IOA), UK, [www.actuaries.org.uk](http://www.actuaries.org.uk)
  - Institute of Actuaries of Australia, [www.actuaries.asn.au](http://www.actuaries.asn.au)
  - Society of Actuaries, US, [www.soa.org](http://www.soa.org)
  - Casualty Actuarial Society, US, [www.casact.org](http://www.casact.org)
- The exams are conducted by the actuarial bodies.
- There are mutual recognitions between some of these Institutes
- There are some university courses that are recognised by some actuarial bodies



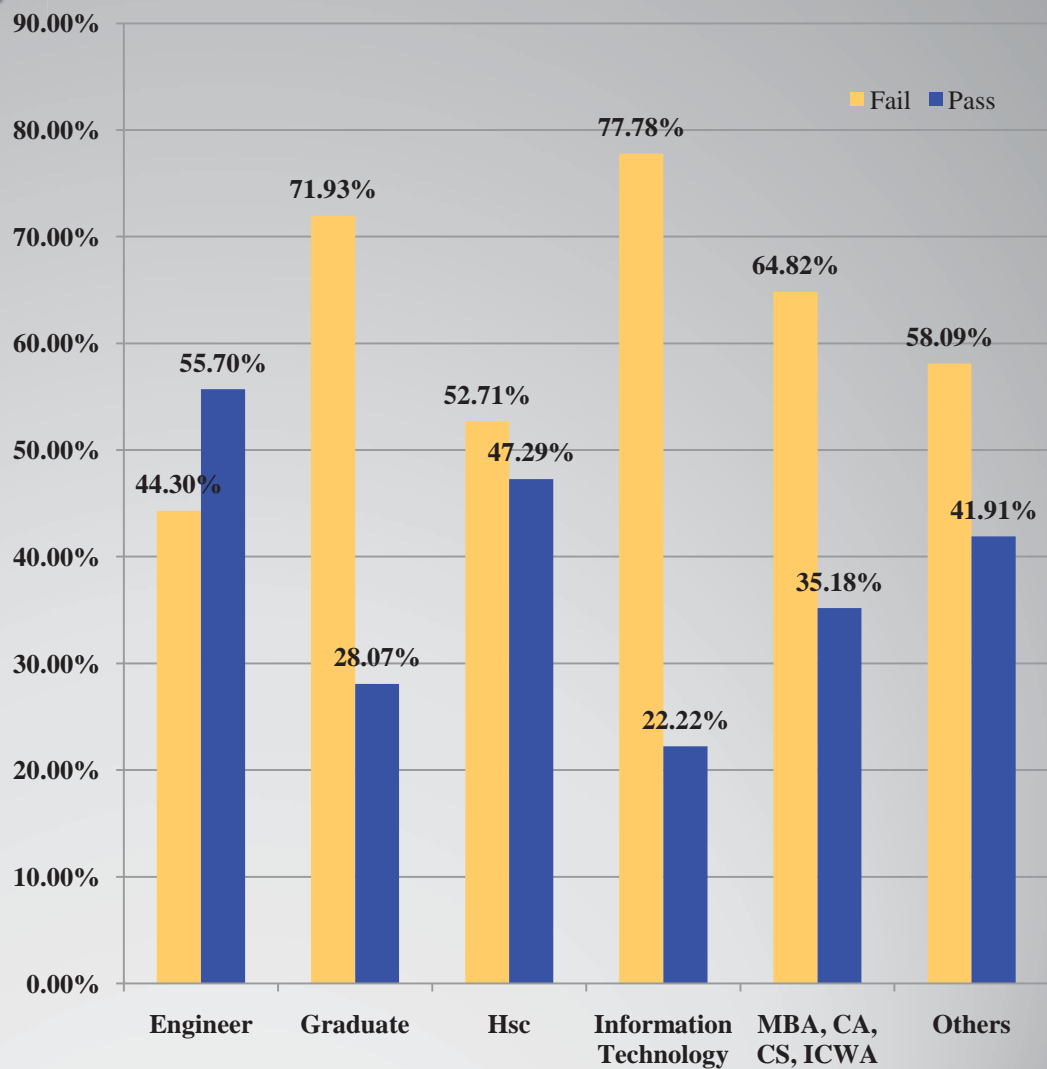
# ACET for Student membership in IAI

- ACET – “**Actuarial Common Entrance Test**” is applicable to those who plan to enroll as student members of IAI and wish to take actuarial examinations from the IAI
- Eligibility criterion – student should have passed 10+2 examination or an equivalent examination with English as one of the subjects at 10 + 2 level.
- Student is examined on basics in Actuarial/Mathematics and Statistics
- More information available on <http://www.actuariesindia.org/acet.html>

# ACET 1 Experience

<b>Total candidates</b>	<b>1,663</b>
Pass	675 (40.59%)
Fail	988 (59.41%)

Candidate Profile	Fail	Pass
Engineer	44.30%	55.70%
Graduate	71.93%	28.07%
10 +2 (HSc)	52.71%	47.29%
Information Technology	77.78%	22.22%
MBA, CA, CS, ICWA	64.82%	35.18%
Others	58.09%	41.91%
<b>Grand Total</b>	<b>59.41%</b>	<b>40.59%</b>



# Classes of membership - IAI

Membership figure as on 31<sup>st</sup> March 2012

- Fellow – 245
- Affiliates - 21
- Associates - 134
- Student - 8257

## Fellow

A member of the Institute of Actuaries of India, on application, is admitted as a Fellow member subject to passing exams and relevant work experience

## Affiliate

A Fellow Member, or is a holder of membership considered equivalent to the Fellow Membership of the IAI, of any other institution, is admitted as an Affiliate Member

## Associate

Students members who have passed all the subjects of CT series and all CA subjects are eligible, on application, to become Associate Member of the Institute

## Student

Before a candidate start with any examinations, he must be admitted as a student member of the Institute of Actuaries of India.

# How much do I need to study?



Like other top-ranked professions (such as law and medicine), one must pass a set of examinations to achieve professional status as an actuary.

Unlike other professions, in actuarial science you'll have the opportunity to work as an actuary while completing the examination process—employers often allow study time during working hours, pay exam fees, provide internships, and even award raises for each exam passed.

- Number of hours of study vary depending upon the subject
- In most employers you work under an actuary while completing the examination process
- Most employers allow study time and have attractive incentives for exams passed

# References

- [www.actuariesindia.org](http://www.actuariesindia.org)
- [www.actuaries.org.uk](http://www.actuaries.org.uk)
- [www.beanactuary.org](http://www.beanactuary.org)



**Thank you**