

Promoting of Forensic Engineering Studies in India

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Abstract: -

Promoting the studies in the field of forensic engineering in various Government & Private Institution in India which is believed to play a key role in “Students & Working professional’s” success in both academic and career lives. Therefore, this paper aims to explore Indian students & working professionals on factor promoting forensic engineering.

Keywords —Promoting Forensic Engineering, Government & Private Institution, Working Professionals in Government & Private Enterprises.

I. INTRODUCTION

Forensic Engineering is a branch of Forensic Science where forensic engineers are engaged in analyse Industrial Accidents, Automobile Accidents, Building Collapse, Fire Accidents, Explosions, Manufacture failure, Marine Accidents, perform tests on weapon’s or substances, such as fibre, hair & tissue to determine the significance of investigation, and on various calamities injuries or significant property loss. Their job is to investigate the failure and to find out the root cause of the accidents. The purpose of this course is to:

- To learn what was there before the accidents, and in the condition, it was in prior to the event.
- Hypothesizes plausible ways in which the pre-event condition can become the post-event condition.
- To Provide Guidelines for conduction failure investigations.

- To apply engineering knowledge and the skills to relate various facts of incidents into a cohesive scenario of how the event may have occurred.
- To learn the guidelines of Indian evidence, Act 1872.
- To learn how to develop practice and procedure to reduce the accidents in various industries.

II. GOVERNMENT & PRIVATE INSTITUTION

In India there are very few intuitions which conducts the course of forensic engineering, mostly are distance learning mode. Therefore, an additional course should be added in all the technical private & government institution in India. Practical Training with proper Lab should be introduced and opportunity of Internship in this field must be given to the students perusing forensic engineering.

Eligibility of forensic engineering studies are engineering graduate, therefore graduate with technical skills or any engineering graduate can

lead to a positive outcome. Forensic engineering can be commended in branches of engineering as follows: -

- Mechanical Engineering: - Automobile Accidents, Industrial Machineries Accidents, Industrial Disaster Rail Accidents, Aviation Accidents, Traffic Collisions.
- Electrical Engineering: - Consumer Products Accidents, Electrical short circuit, High- Tension & Low-Tension Accidents.
- Civil Engineering: - Structural Failure such as bridge&buildings collapse
- Computer Science Engineering: - Cyber Crimes, Cyber Laws, Cyber Security Trends & jurisprudence impacting cyber space.
- Chemical Engineering: - Hazardous accidents, Chemical Accidents

List of Institution Commencing Forensic Engineering Education in India (Fig 1.1)

SNo.	Private and Government Institute			Course
	Name of Institute	Mode of Learning	Place	
1	National Institute of Forensic Science	Regular	Delhi	PG Diploma Cyber Crime & Law
2	Sherlock Institute of Forensic Science	Distance	Delhi	Forensic Engineering
3	International Forensic Science	Distance	Pune	Forensic Engineering
4	Gujrat Forensic Science	E-Learning	Gujrat	Professional Course (Cyber Security)
5	University of Madras	Regular	Chennai	MSC Cyber Forensic & Information Security

6	National Institution of Technology	Regular	Tiruchirappalli	GIAN Course on Forensic Engineering & Failure Analysis
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III. WORKING PROFESSIONAL IN GOVERNMENT & PRIVATE ENTERPRISES

Mostly Engineers Communicate with their colleagues using the technical language of calculations, stress, strain, tear etc which will lead the lawyers and people with little knowledge of engineering. The typical engineers will understand the cause of failure or accidents in order to design remedial measure to avoid such a failure in further, In contrast with the legal procedure the forensic engineers Opinium might be relied by others to assign blame because the engineering testimony or work may be presented in the legal proceeding, but the forensic engineer would be familiar with legal proceeding and what is expected from the expert witness.

Role of Forensic Engineering for the working Professional in Government & Private Enterprises

- Keeps records and prepare report, detailing findings, investigation methods & lab Techniques on accidents occurred,
- Confer with Ballistics, fingerprinting, handwriting, electronics, medical, chemical, metallurgical concerning evidence or information which is to be presented in court.
- Reconstruct Crime Scenes to determine the relationship with the collected evidence.
- Compare the objects with the impression mark to determine whether the object is responsible for the accident
- Review forensic analyst reports for technical merits.

- Testify in court about investigation methods or findings.

The following diagram would make simple to understand the procedure for professional employee. (Fig 1.2)

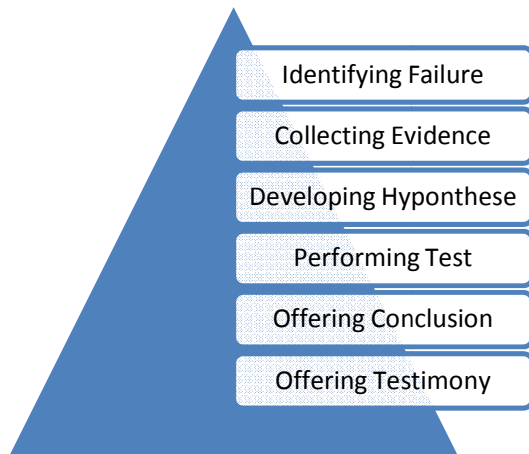


Fig 1.2

Examples of Forensic Engineering Cases: - Forensic Engineering International an organization has determined cause and origin in many of the high-profile incidents and disaster in USA,

- TWA 800 en route from New York Kennedy airport to Paris July, 1996

- Crash Missouri National Guard F-15C, 2007
- Sango Coal Mine Disaster, Jan, 2006
- Olympic Park Bombing, 1996
- Scaffold Collapse – Willow Island Disaster April, 1978
- United States Naval Battleship USS (BB-61) Explosion, April 1989
- Train Derailment – Sunset Limited Sept, 1993
- Oklahoma City Bombing, April 1995

IV. CONCLUSIONS

From this paper we can understand the importance of Forensic Engineering in professional employment and also the importance of forensic education in various branches of Engineering.

Therefore, we need to promote forensic engineering courses like Short Term Course, Certification Course, Diploma Course, Bachelor Course, PG Diploma Course, Master's and Ph.D. in various public and government institutions in India.

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