

Let us now begin with the module

Forensic science introduction:

Basic principles and

Significance, history, development,

nature and scope.

In this module we are going to speak

about principles of forensic science,

history and development of forensic science,

nature and scope of forensic science.

At the end of this module,

the students will understand the

basic principles of forensic science.

They will be familiar with the

history and development of forensic

science and the nature and

scope of forensic science.

Forensic science is a branch of

applied science which is used

in the fight against crime.

The word is derived from forum,

which means marketplace.

So forensic science is
any branch of science,
technology or engineering which is
suitably adapted for investigation of
crime and administration of justice.

Speaking about the basic principles
and significance of forensic science,
the first principle is the principle
concerning occurrence of evidence.

So here we have local exchange principle,
also known as the principle of exchange.

This principle was formulated by French
forensic scientist Edmond Locard.

It states that every contact leaves a trace.

Two objects coming in contact always leads
to transfer of material to each other.

The amount of material transferred
depends on the nature of object,
extent of contact, time,
recipient as well as the environment.

Transferred material may be lost.

The context in which the contact occurred and the case circumstances are very important, and it also depends upon the investigators ability to find the evidence.

Next principle is concerning evidence recovery.

Nothing should be added, lost, damaged or obliterated in the recovery process.

The investigators have to avoid contamination.

Portable objects have to be transferred to the laboratory under controlled conditions.

And appropriate health and safety measures has to be taken when collecting and transporting evidence.

Principle concerning analysis uses the scientific method.

It includes various steps such as observation, data collection, hypothesis, and results.

Principle concerning interpretation

speaks of principle of individuality
and principle of comparison.

Principle of individuality says that
two objects may be indistinguishable,
but no two objects are identical.

Principle of comparison states two
objects are set to match when there
are no unexplained forensically
significant differences between them.

Principle concerning presentation.

It involves full disclosure and
impartial presentation of evidence.

Evidence should be understandable.

It should neither be overstated
nor understated.

It should follow a code of ethics and
should have a complete laboratory report.

Significance of forensic science.

It is useful in criminal, in criminal
investigation and also for providing

scientific evidences in many cases.

Coming to the history and

development of forensic science.

The first important person we

are going to speak about is Sir

Arthur Ignatius Conan Doyle.

He was a British physician and writer.

He used in his works, serology,

fingerprints and questioned

document examination.

And he contributed immensely

with his scientific writings.

Sir Francis Galten studied using

a study to define fingerprints.

He came up with the methodology

of classifying fingerprints which

could be filed and in the year 1892

he published book on fingerprints

and its statistical treatment.

Doctor Karl Landsteiner.

was an Australian biologist

and physician in the year 1901

he gave the classification of blood

groups and in 1937 identified Rh

factor along with Alexander Wiener.

Sir Leone Lattes in the year 1915

came up with a technique to determine

blood group of a dried blood stain.

He also prepared training

manuals for police officers.

Sir, Calvin Goddard developed

the comparison microscope.

Sir Hans Gross was a public

prosecutor and judge who published

a book in criminal investigation.

Sir Albert Osborn is known as the

father of document examination.

In 1910, he gave a set of questioned documents.

Sir Edmond Locard has degree in

medicine and law and he had given

us the principle of exchange.

The first forensic science laboratory

at Lyon in 1910 was established by
him and later on he also established
these forensic labs in Vienna,
Berlin, Holland and USA.

Sir Mathieu Orfila is known as the
father of modern toxicology.

He came up with the scientific
chemical analysis of poisons.

Sir Alphonse Bertillon
French scientist.

He developed scientific system for
personal identification in 1879.

And also the concept of science
of anthropometry.

So now we move on to the nature
and scope of forensic science.

Forensic science is used
extensively in crime laboratories.

It is also used
in physical science, biology,
firearms, document examination, photography.

It also has an application with toxicology,

latent fingerprint, polygraph,

voiceprint analysis,

and crime scene investigation.

The other branches include forensic

psychiatry, forensic

odontology, forensic engineering,

forensic computer,

and digital analysis.

And these are the references which

have been used for this module.

Thank you.