

Name: Priyanshu Mahato

Roll NO.: 21MS002

Expt. No. 3: Chemical Detectives in Forensic Analysis

Q1. Define forensic science and explain the importance. How it helps for societal benefits?

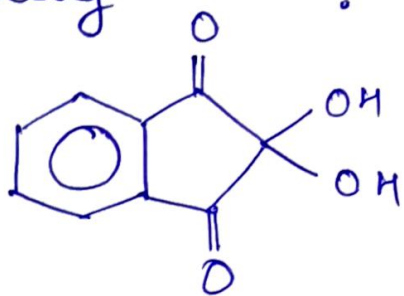
ans. Forensic science is the method to help determine the cause of a crime or accident and identify criminals using scientific knowledge. The forensic science is important as it can determine the cause of death, criminals can be identified using fingerprints. Even with the tiniest bits of hair, skin, fibres from clothings or sug, blood, saliva, or other materials can be used as evidences that the untrained eye might overlook. It helps in societal benefits as justice can be served to people who fall victim to crimes that was not possible earlier. With advancement in forensics, scientists can compare more than 30 characteristics of human ~~finger~~ tissue. Thus, identifying the criminals and helping in the overall welfare of the society.

Q2. What is the interrelation between forensics & chemistry.

ans. Forensic chemistry is the application of chemistry and its subfield, Forensic Medicine and Toxicology. A forensic chemist can assist in the identification of unknown materials found at a crime scene. Specialists in this field have a wide array of method and instruments to help identify unknown substances.

Q3. Draw the structure of Ninhydrin? How does it help in detecting amines?

ans.



Ninhydrin
(2,2-dihydroxyindane-1,3-dione)

When ninhydrin reacts with free amines a deep ~~blue~~ blue or purple color known as Ruhemann's Purple is produced indicating the presence of amines. (The mechanism of this reaction has already been explained in the Lab Report of Expt. NO. : 3).