Industrial Revolution Forensic Science

Forensic Science · Answer Key · 20 Questions

1. What significant advancement in microscopy during the Industrial Revolution aided in the examination of evidence like blood and fibers?

A) The invention of the electron microscope
B) Improvements in lens grinding and the compound microscope
C) The development of the scanning tunneling microscope
D) The introduction of X-ray diffraction

2. During the Industrial Revolution, what was a common method for identifying arsenic poisoning, which was prevalent in the era?

A) DNA analysis
B) Gas chromatography-mass spectrometry
C) The Marsh test
D) Fingerprinting

3. The development of photography during the Industrial Revolution had what impact on forensic science?

A) It allowed for the real-time tracking of suspects
B) It provided a permanent record of crime scenes and evidence
C) It enabled the identification of individuals through voice analysis
D) It revolutionized the use of DNA profiling

4. What early chemical test was used to detect the presence of blood, particularly useful in cases of assault or murder during the 19th century?

A) The Luminol test
B) The Kastle-Meyer test
C) The Takayama test
D) The benzidine test

5. The Industrial Revolution saw an increase in urbanization and its associated crime. What early form of identification was beginning to be used to identify repeat offenders?

A) Retinal scanning
B) Fingerprinting
C) Voice recognition
D) Facial recognition software

6. What type of evidence, often generated by industrial processes, became more common for forensic analysis during this period?

A) Digital footprints
B) Ballistics markings
C) Trace evidence like soot and industrial chemicals
D) Fiber analysis from spacecraft

7. The study of poisons (toxicology) advanced significantly during the Industrial Revolution. Which common industrial chemical became a focus of toxicological investigations?

A) Radioactive isotopes
B) Lead
C) Plutonium
D) CFCs

8. What scientific principle, becoming more understood during the Industrial Revolution, underpins the idea that 'every contact leaves a trace'?

A) Newton's Laws of Motion
B) The Law of Conservation of Mass
C) Locard's Exchange Principle
D) The theory of relativity

9. Early forensic entomology relied on understanding the life cycles of insects. What did entomologists observe to estimate time of death?

A) The color of the sky
B) The stage of decomposition and insect colonization
C) The phase of the moon
D) The ambient temperature of the building

10. The Industrial Revolution led to the mass production of goods. How did this affect the examination of physical evidence like fibers?

A) It made fiber analysis impossible due to uniformity
B) It increased the variety of fibers, making comparison more complex
C) It limited fiber analysis to natural fibers only
D) It standardized fiber production, making all fibers identical

11. What medical examination technique, gaining traction in the 19th century, helped determine the cause of death in suspicious cases?

A) MRI scans
B) CT scans
C) Autopsies (post-mortem examinations)
D) Endoscopies

12. The development of reliable ink and paper manufacturing during the Industrial Revolution impacted the forensic examination of what type of evidence?

A) Digital media
B) Soil samples
C) Documents and handwriting
D) Explosives residue

13. What early method of recording and comparing fingerprints was developed by Sir Francis Galton, a prominent figure in the late Industrial Revolution?

A) A system of classifying fingerprint patterns (loops, whorls, arches)
B) Automated fingerprint identification systems (AFIS)
C) DNA profiling of fingerprints
D) Latent fingerprint development using superglue

14. The increased use of firearms during the Industrial Revolution led to advancements in the analysis of what type of evidence?

A) Tool marks
B) Bullet and cartridge case markings
C) Tire tracks
D) Shoe prints

15. What type of residue, often associated with fires and explosions that became more frequent with industrial advancements, could be analyzed forensically?

A) Ash from volcanic eruptions
B) Combustion products (e.g., accelerants)
C) Dust from meteor impacts
D) Sand from construction sites

16. The development of early chemical color tests, like the Prussian blue test, allowed for the identification of which element, often used in pigments and poisons?

A) Gold
B) Iron
C) Silver
D) Platinum

17. The growing understanding of physical evidence and its transfer led to the development of techniques for what in the Industrial Revolution era?

A) Creating fake evidence
B) Collecting and preserving evidence
C) Destroying evidence
D) Analyzing abstract art

18. During the Industrial Revolution, what type of injuries became more scrutinized due to increased industrial accidents?

A) Insect bites
B) Animal attacks
C) Blunt force trauma and cuts
D) Bruises from falls in zero gravity

19. The era saw the rise of forensic medicine as a distinct field. Who is often considered a pioneer in this area for his work on poisons and autopsies?

A) Sir Arthur Conan Doyle
B) Matthieu Orfila
C) Francis Galton
D) Edmond Locard

20. The development of more precise weighing instruments during the Industrial Revolution aided in the accurate quantification of what in forensic analysis?

A) Light intensity
B) Substance quantities (e.g., poisons, drugs)
C) Sound waves
D) Emotional states