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PRESENTATION ON

BLACK POWDER

CUFS 2416 EXPLOSIVE AND POST BLAST INVESTIGATION

B.SC. FORENSIC SCIENCE (SEM 6)
SCHOOL OF FORENSIC SCIENCES
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BLACK POWDER

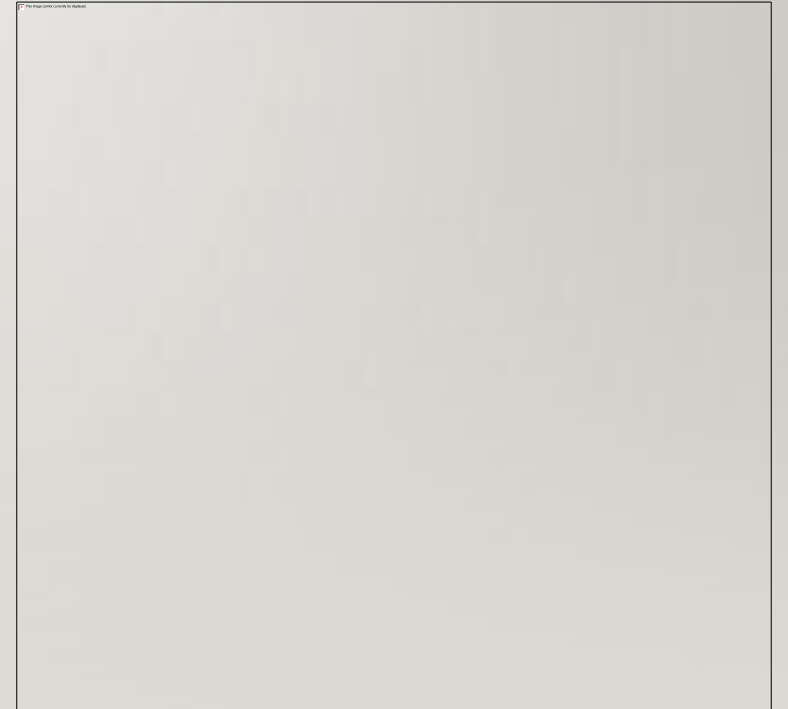
- Black Powder also known as Gun powder .
- It consists of combination of the fuels charcoal and sulphur along with the oxidizing agent potassium nitrate.
- The most effective ratio was believed to be 1 part of sulphur: 3 parts of charcoal: 9 parts of saltpetre.
- Some black powders, designated as “Grade B blasting” uses sodium nitrate instead of potassium nitrate

HISTORY

- Chinese monks discovered the technology in the 9th century, during their quest for a life-extending elixir.
- The key ingredient, saltpetre, had been in use for medicinal purposes.
- Saltpeter came into demand as the key tool for warfare in early modern period.
- In 14th century europeans began adding liquid to the mixture, forming a paste that would dry and could be ground into balls—this came to be known as “corned powder.”

COMPOSITION OF BLACK POWDER

- Charcoal and Sulphur act as the fuel for the explosion , while Potassium Nitrate acts as an Oxidizer.
 - i. 75% Potassium Nitrate (KNO_3) – Also known as Saltpetre , it supplies oxygen for the combustion reaction.
 - ii. 15% Charcoal (C) – It consist of broken down cellulose and provide carbon and other fuel for reaction.
 - iii. 10% Sulphur (S) – It is used for reducing the ignition temperature of charcoal .



USES

- It can be used as a propellant in firearms, rockets, fireworks.
- Black powder also used as a explosive in mining and road building.
- Gun powder is also used in medicine.



DISADVANTAGES

- The manufacturing process involves using large amount of carbon compounds.
- To gain greater velocity , a large amount of black powder must be used .
- Black powder produces a dense smoke, a smoke puff help the enemy to spot the shooters position.
- Black powder residue is corrosive to steel.

BLACK POWDER VS GUN POWDER

Parameters of comparison	Black Powder	Gun Powder
Discovered By	Chinese	Chinese
Uses	Ignition charges, fuses, primers, and blank fire charges in military.	Guns, Blasting purpose in mining areas.
Used Today in	It is still used by the military people, ignition chargers , and other purposes	Now replaced by smokeless powder
Smoke Released	Releases a lot of smoke in the air when it was being used.	Releases less smoke in air when it is in use.
Odour	Little smell (mostly charcoal)	Odourless
Purity	Less refined and less pure	Refined and pure

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THANK YOU.

