



Introduction, need and scope of Standardization of Forensic Labs

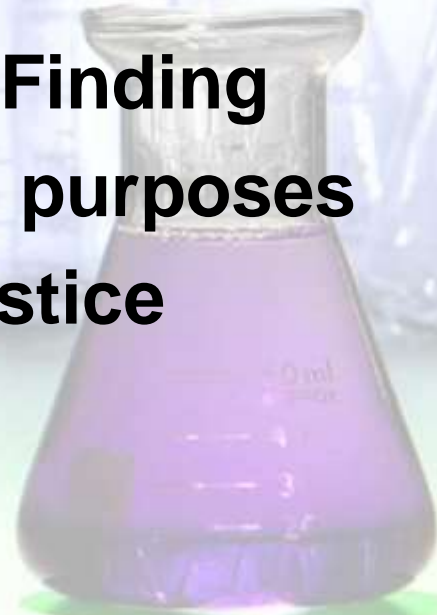
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BASIC NEEDS

- **Improving Quality Of Lab Services**
- **Reliability Of Finding Submitted**
- **Improving Criminal Justice System**
- **Credible Quality System Operation Of Lab**

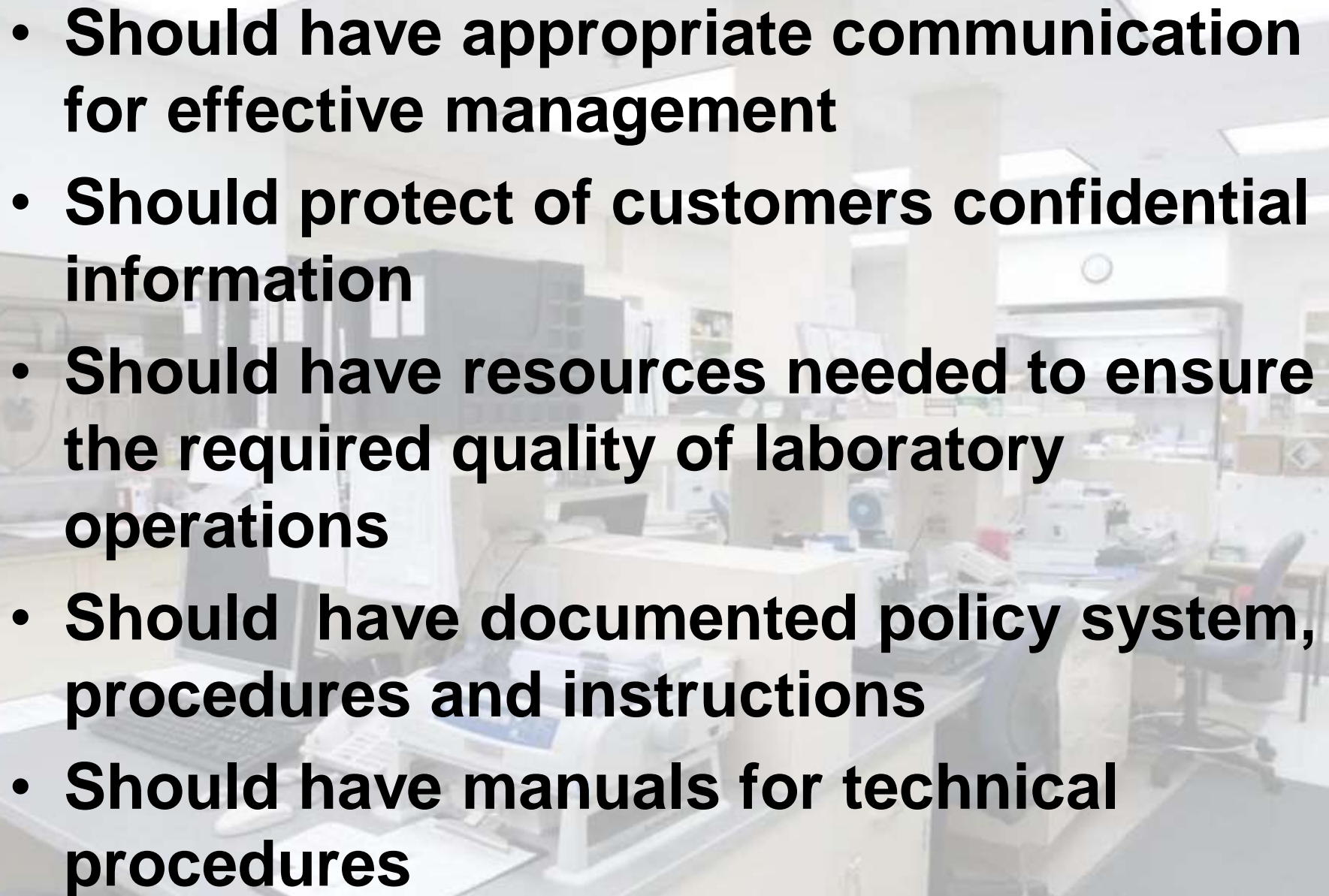
FUNCTIONS

- **Examination Of Crime Scene Exhibits**
- **Recovery of evidences**
- **Submission Of Credible Finding (Laboratory Examination)**
- **Scientific Interpretation Of Finding**
- **Conclusion for Intelligence purposes**
- **Conclusion for Criminal Justice**



Forensic Science Laboratory

- Should be a legally identifiable organization
- Should meet the requirement of:
National and International Standard
- Should have managerial and technical personnel with adequate authority and resources
- Should have policy and procedure to ensure that its management free from any pressure

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- **Should have appropriate communication for effective management**
 - **Should protect of customers confidential information**
 - **Should have resources needed to ensure the required quality of laboratory operations**
 - **Should have documented policy system, procedures and instructions**
 - **Should have manuals for technical procedures**

DISCIPLINES/ACTIVITIES

- **Chemistry**
- **Toxicology**
- **Biology**
- **Serology**
- **Explosives**
- **Physics**
- **Ballistics**
- **DNA Finger Printing**
- **Fingerprints**
- **Narcotics**
- **Cyber Forensic**
- **Forensic Psychology**
- **Questioned Documents**
- **Crime Scene Investigation**

HOW TO WRITE SCOPE

- **Chemistry**

Exhibit: Petroleum Products

Test Parameter :Distillation Range

Test Protocol : -DFS Working Procedure

Range Of Testing/Limits Of Operation/Limits Of Detection

TOXICOLOGY

- **Exhibit : Visceral Material(stomach And Intestine With Contents**
- **Test Performed :Detection Of Poison/Drug**
- **Test Method : DFS Method Using TLC/GC/GC-MS**
- **Limits Of Detection: Milligram, Microgram**

SEROLOGY

- Exhibit : Blood
- Test Performed : -Benzedine Test
Blood Group Test
- *Test Method : DFS protocol
- * Limits Of Detection : N.A

EXPLOSIVE

- Exhibits : Explosive/Debris
- (TNT,RDX,NG etc.)
- Test performed : Detection by TLC/HPLC/GC-MS/FTIR etc.
- Test Method ; DFS manual
- Limits of Detection : ppm/ppb

BALLISTICS



- **Exhibit : Bullets/Cartridge**
- **Test Performed : Linkage Of Fired Cartridges By Test Firing/Microscopic Examination/Dimension/Comparison/Elemental Composition**

BIOLOGY

- **Exhibits : Hair, bone, skull, teeth**
- **Test Performed :Microscopic Examination, presumptive test, confirmative test**
- **Qualitative Test**

NARCOTICS

- **Exhibits : 1. Opium, Morphine, Poppy Straw**
 - 2. Charas, Ganja ,Bhang**
 - 3. Heroin**
 - 4. Cocaine**
- * **Test Performed : Qualitative Identification & Quantitative Analysis By TLC/ HPLC / GC / GC-MS /UV-Visible Spectrophotometer**

PHYSICS

- **Exhibits : Foot Print, Tire print And Shoe Print**
- **Test Performed : Identification And Comparison**
- **Techniques : Physical/ Dimensional/ Photographic Superimposition Of Known And Questioned Items**

DNA FINGERPRINTING

- **Exhibit : Biological Specimen**
- **Test Performed :**
Individualization Of Biological Specimen
Kinship Of Biological Specimen
Paternity / Maternity Test
- **Test Method : STR Analysis, DNA Isolation, PCR,**
Amplification, Genotyping As Per DFS DNA Profiling
Document

IMPORTANT ISSUES IN FORENSIC LAB

- **Managing Case Records**
- **Scientific Qualification & Experience**
- **Technical And Personal Competence To Defend Findings**
- **Evidence Management (Chain Of Custody Record)**

IMPORTANT ISSUES

- **Selection Of Most Appropriate Test Method / Validation**
- **Health And Safety Management**
- **Handling And Preserving Integrity Of All Evidences**