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**OLIVAREZ COLLEGE OF TAGAYTAY**

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**“Chemical Composition of the Developer”**

A manuscript presented in the faculty of:

**COLLEGE OF CRIMINOLOGY**

Department of Criminology

In partial fulfillment of the requirements for the degree of

**BACHELOR IN SCIENCE IN CRIMINOLOGY**

Under the Subject **“Police Photography”**

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2019

**Lesson: Chemical compositions of the developer**

**Objectives:**

At the end of the discussion, the student should:

1. Learn and Define the different chemical composition.
2. Identify the different chemicals used in photography
3. Differentiate the different chemical composition under photography.
4. Importance of the following chemical composition in photography

**Teaching methods or techniques**

* Combination Method (Lecture an Discussion)
* Situational Technique (Question and Answer)
* Using of Power Point Presentation as an aid in reporting

**References:**

* Webster’s Third new International Dictionary.
* Merriam -Websters Dictionary
* Retrieved from: <http://bit.ly/2Hg3sEZ>
* Retrieved from: <http://bit.ly/2Cklv9>
* Retrieved from: <http://bit.ly/2t0sqoh>
* Retrieved from: <http://bit.ly/2T4Mhr4>

**Learning Stages/ Steps**

* **Introduction**
* Prayer
* Introduction reporter’s identity
* Rapport: Ice Breaker
* Guess what word is being presented on the jumbled word.
* Opening Statement
* Motivation
* Relevance of the topic to job practical application and to our daily lives.
* **Instruction**
* Outline of Discussion
1. Definition of the different chemical composition
2. Definition of reducer or developing agent in photography
3. Advantages and disadvantages of chemical composition
4. Experience(personal experience or observed)
5. SYNTHESIS (ask the students on additional ideas under chemical composition)
* **Objective test**
* Short Quiz
* Enumeration (1-6)
* Constructed Response (1-5)
* **Summary**

At the end of the discussion, the students will learn about the chemical composition used in photography such as Developer (alkaline), Preservatives, Accelerator, Restrainer or fog preventer. They can also give the advantages and disadvantages of chemical composition under photography and give some importance.

* **Assessment : Short Quiz)**

1-2 Give the two reducing agents under developer.

3-6 What are the four chemical composition?

7-8 Give at least two advantages of the chemical composition in photography.

9-10 Give at least two disadvantages of chemical composition in photography.

REDUCER OR DEVELOPING AGENT

**DEVELOPER-(alkaline)**

Convert latent image to a manifest image

 Reducing agents -

\* phenidone - fast acting produces OD to 1.2

\* hydroquinone - slower

Completes development process

Completes OD more than 1.2

**PRESERVATIVE**

A preservative is substance or chemical that is added to products such as food, beverages, pharmaceutical drugs, paints biological samples, cosmetics, wood, and many other products to prevent decompositon by microbial growth or chemical changes. In general, preservation is implemented into two modes,chemical and physical. Chemical preservation entails process such as refrigeration or dying. Preservative food additives reduce the risk of foodborne infections , decrease microbal spoilage, and quallity some physical techniques for food preservation include a dehaydration, UVC radiation, freeze- drying, and refrigeration. Chemical preservation and physical prrservation techniques are sometimes combined.

Preservatives - prevents hydro from oxidation

**ACCELERATOR**

Accelerator will take your existing work flow and add some serious power in speed. More importantly we look at some incredible techniques for adding bucket loads of wow factor to each and every one of your photos.

Accelerator - softens and swells emulsion

Provides an alkaline base

**RESTRAINER OR FOG PREVENTER**

It can also be used as a fog restrainer when processing outdated papers….make sure a 0.2% solution of benzotriazole (2g benzotriazole in water at 125 degrees f/52 higher to make 1 litter) then reduce the bromide to 1/10 or 1/6 strength and use just enough benzotriazole solution to prevent develkoper staion or fog.

Restrainer (\*potassium bromide) what starter solution is made of hold back developing agents so only the silver halide crystals that are exposed to radiation are developed