CH1102.

LAB REPORT EXPT. 04.

EXPT. NO.-04 : Cyanotype Blue Printing.

AIM & OBJECTIVES :-

(1) Learn one of the oldest photographic techniques that produces intensively blue pictures.

(2) Understanding Cyanotype Process.

APPARATUS REQUIRED :-

→ 1100 mL Volumetric Flask
→ 1500 mL Beaker (1)
→ 100 mL Beaker (3)
→ 25 mL Measuring Cylinder (1)
→ 25 mL Volumetric Flask (1)
→ Crystalline Dish (3)
→ Plastic Box (2).

CHEMICALS REQUIRED :-

→ 0.5M Oxalic Acid
→ 3.5M Diammonium Phosphate
→ 0.5M Ferric Chloride
→ 0.1M Ferricyanide
→ Bond Paper, Filter Paper.

EXPERIMENTAL PROCEDURE :-

(1) Pour 25 mL of 0.5M Oxalic Acid into a plastic box and add 5 mL of 3.5M diammonium phosphate soln and mix well.

(2) Place the box in locker or any place which has subdued light and add 25 mL of 0.5M ferric chloride soln while stirring.

(3) Immerse the bond paper in freshly prepared sensitizing soln and make sure that the paper is thoroughly wet.

(4) Take out the wet paper and put it between sheets of filter paper to dry it and leave it in a closed locker for at least 15 mins.

(5) After the paper has dried, remove it from the filter paper sheets, place the opaque paper on top of the sensitized paper and compress it between sheets of glass and expose it to UV light for 10-15 mins.

(6) After the exposure, remove the opaque paper and smoothly dip the sensitized paper into 50 mL of 0.1M ferricyanide soln kept inside a plastic box.

RESULTS & OBSERVATIONS :-

After dipping the sensitized paper in ferricyanide sol^n, Prussian Blue image appears.

$$Fe^{2+} + K_3[Fe^{III}(CN)_6] \longrightarrow K[Fe^{II}Fe^{III}(CN)_6] + 2K^+$$

Blue precipitate

CONCLUSION :-

The cyanotype was used by the photographers of 19th century as a low-cost technique for the production of test prints of photographs before passing to the final projection on the paper template.