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1. Learning Outcomes

After studying this module, you shall be able to

- Know about the charred and torn documents, their preservation and decipherment

2. Introduction to charred and torn documents

The charred documents and the torn documents are very important in some cases. Many times there are cases of charred documents. These cases have been reported in which the act of arson was done just to destroy the important documents. The culprits usually find an easy way to destroy the evidences in the form of documents is to burn them. Although a charred document by definition doesn't mean fully burnt documents it only means the partially burnt documents. The documents which are burnt partially in the act of burning are charred documents and these documents can be reverted back to a readable form if the proper method and expertise is applied. The characteristics of the charred documents are as follows: -

- ✚ The documents become black due to heat.
- ✚ The edges of the documents become curled.
- ✚ The document becomes fragile.
- ✚ Due to the fragility developed the document may break into pieces even by a small amount of pressure.
- ✚ The charred document always have a point during its burning period at which the written material is clearly seen and at that time the photograph of the document should be taken if possible.

The torn documents are quite different from the charred documents as the name suggests the document is torn into pieces and the proper identification of the torn documents is dependent on the number of pieces available from the total number of pieces and its arrangement as in a puzzle. The torn documents are generally found in the cases of suicides where the family members want to hide this fact that the death was suicidal in nature.

The torn documents are also seen for the edges or the direction in which it has been torn and it also requires restoration like the charred documents. The documents which are torn have the following characteristics: -

- ✚ The documents which are torn are always available in the form of pieces.
- ✚ The edges of the paper should be looked for if any specific area has been torn or not.
- ✚ The torn pieces of the documents should be collected and tried to arrange it properly.
- ✚ After the pieces are arranged properly it should be photographed and then the restoration process is carried out.

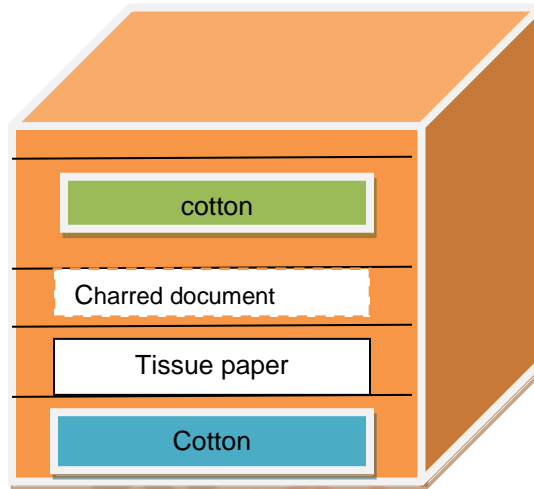
3. Preservation and storage of charred and torn documents

3.1 charred documents are more difficult to restore than the torn documents because there is very much difficulty in the process of collecting and transporting the charred documents. The charred document is in very bad condition but still it can be restored the charred document is shown below: -



3.2 protection and transportation of the charred documents: -

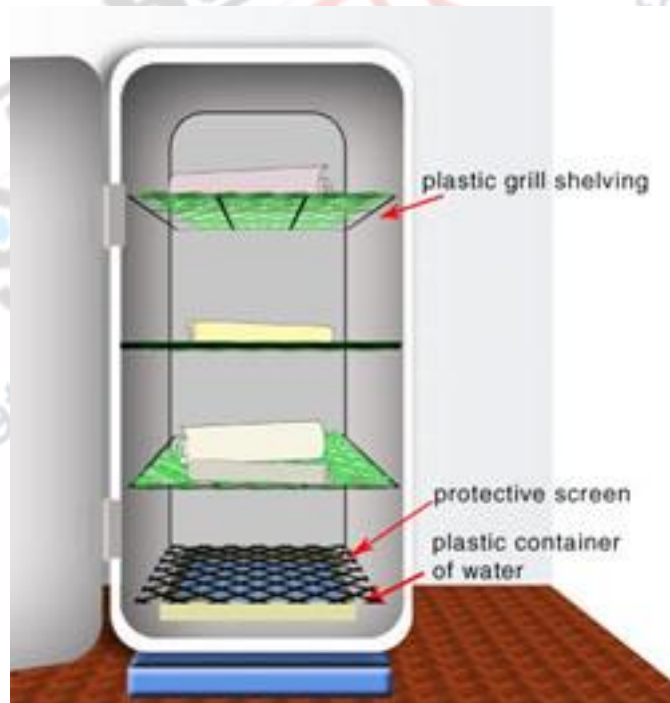
- ✚ Charred documents should be picked with great care by putting a hard paper underneath the charred documents.
- ✚ Since the charred documents are fragile and light waited so, at the time of lifting it should be protected from the air.
- ✚ For transportation to the expert it is placed in a special kind of cardboard box known as the corrugated box in which there are layers of cotton and tissue paper on which the charred document is placed.
- ✚ The charred documents should be put very carefully in the corrugated box without any breakage.
- ✚ The topmost layer of this corrugated box consists of cotton so that the document does not break during transportation.
- ✚ The corrugated box should be labeled and sealed with all the necessary details given below: -
 - Date and time of evidence collection.
 - Place of evidence collection.
 - Signature of IO and two witnesses.
 - Number of evidences in one box etc.
- ✚ There is a diagram shown below to understand that how corrugated box looks like: -
 - This is the arrangement of layers in the corrugated box and it should be remembered while placing the charred document into the box that it should be put along with the cardboard or any hard paper with which the charred document was picked up.



3.3 Stabilization of charred documents: -

- ✚ The main problem in the deciphering of the charred document is its fragility. It is that much fragile that it cannot be handled with the hands. So, the first step in deciphering of the charred document is to make it stable for reading or deciphering the matter on the documents.
- ✚ There are number of ways which have been in use for the stabilization of the charred documents. One of them is placing the charred documents in the wet moisture chamber for several hours and the spraying of the plasticizers for stabilization.
- ✚ The plasticizers used can be cellulose acetate solution in acetone or some other like the polyvinyl acetate (PVA) solution in acetone. But there are various pros and cons of every plasticizer materials used.
- ✚ The cellulose acetate is a good plasticizer but it cannot be used as regular material here since it cannot be sprayed well which is one of the main characteristic of the stabilizing agents.
- ✚ Gum acacia is another material which can be used for the purpose of stabilization of the charred document but it has a bad property of sticking the glass on which the charred document is placed with the charred document. Moreover the spraying property of the gum acacia is also not good.

- ✦ The third and most preferable is the polyvinyl acetate either it can be sprayed or applied with the help of a glass rod to whole of the paper with constant pressure and uniformity.
- ✦ Before the application of polyvinyl acetate the glass surface should be polished with 1% solution of silicon type water repellent substance in petroleum-ether.
- ✦ Due to this silicon type water repellent substance the charred document does not get bound to the glass on application of the polyvinyl acetate.
- ✦ Thus the document can be lifted with ease after being stabilized by stabilizing agent.
- ✦ The polyvinyl acetate solution is made in acetone which gets evaporated after application.
- ✦ After this step the stretching power of the paper is gained to some extent and thus it can be preserved for deciphering the content of the document either between two Perspex sheets or between two glass pieces.



- ✦ This is how a humidifying chamber looks like.

3.4 Torn documents and its preservation: -

- ✚ Torn documents are already in pieces so as if there is no fear of its breakage as in case of charred documents.
- ✚ Torn documents as the name indicates are torn into pieces. It is mainly done to hide some fact from the investigating agencies.
- ✚ The important thing during the analysis of the torn documents is the recovery of each and every piece of the document.
- ✚ The preservation of torn documents depends from condition to condition like if the pieces of the torn documents are big enough they can be placed in a polybag and then in a box or if the pieces are very small they can be placed in a small box and then in a polybag and then again in a larger box.
- ✚ While preservation of the torn documents it is necessary to look for any fingerprints on the pieces of paper which can lead us to the suspects.
- ✚ All the information regarding the evidence should be written on the box which is then transferred to the expert.



The above shown picture shows the process of solving the puzzle of a torn document.

4. Deciphering of the charred and torn documents.

4.1 Deciphering the charred documents: -

- ✚ During the process of burning there are many points at which the written matter on the documents can be seen. So, at those points we should get the photograph of the document done.
- ✚ When the fragility of the charred documents is less or if it can be straighten up by hand then it is placed after getting it straighten up on the negative photographic film paper. The written material on the document which is corresponding to the negative film gets developed on the negative film by the process of fogging. So the exposed negative can be developed by the simple process of negative film development and then the written matter can be easily deciphered.
- ✚ In charred documents the written matter is generally unaffected and can also be deciphered by the ultra-violet or infrared photography.


4.2 Deciphering the torn documents: -

- ✚ The torn documents are deciphered in different manner and it can only be deciphered correctly if we get all the pieces of the torn document.
- ✚ All the pieces should be spread on a large table and it should be taken care of that there should be no air which can blow of the pieces.
- ✚ Then the pieces are joined to each other like in a puzzle according to their geometrical shapes.
- ✚ After joining all the pieces correctly a photograph should be taken in normal light.
- ✚ Then the pieces are joined with gum acacia or can also be preserved between two sheets of Perspex as in charred document for further examination.
- ✚ The other important factor which should be remembered during the analysis of the torn documents is that it may contain the fingerprints of the culprit so; any such evidences should be looked for.

5. Summary

- ✚ The charred documents and the torn documents are very much important in some cases. Many times there are cases in which the charred document gets burned up.
- ✚ The documents which are burnt partially in the act of burning are a charred document and these documents can be reverted back to a readable form if the proper method and expertise is applied. The characteristics of the charred documents are as follows: -
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 - ✚ Due to the fragility developed the document may break into pieces even by a small amount of pressure.
 - ✚ The charred document always have a point during its burning period at which the written material is clearly seen and at that time the photograph of the document should be taken if possible.
 - ✚ Charred documents should be picked with great care by putting a hard paper underneath the charred documents.
 - ✚ For transportation to the expert it is placed in a special kind of cardboard box known as the corrugated box in which there are layers of cotton and tissue paper on which the charred document is placed.
 - ✚ The main problem in the deciphering of the charred document is its fragility. It is that much fragile that it cannot be handled with the hands. So, the first step in deciphering of the charred document is to make it stable for reading or deciphering the matter on the documents.
 - ✚ There are number of ways which have been in use for the stabilization of the charred documents. One of them is placing the charred documents in the wet moisture chamber for several hours and the spraying of the plasticizers for stabilization.
- ✚ Torn documents as the name indicates are torn into pieces. It is manly done to hide some fact from the investigating agencies.

- ✚ The important thing during the analysis of the torn documents is the recovery of each and every piece of the document.
- ✚ The preservation of torn documents depends from condition to condition like if the pieces of the torn documents are big enough they can be placed in a polybag and then in a box or if the pieces are very small they can be placed in a small box and then in a polybag and then again in a larger box.
- ✚ In charred documents the written matter is generally unaffected and can also be deciphered by the ultra-violet or infrared photography.
- ✚ In case of torn documents all the pieces should be spread on a large table and it should be taken care of that there should be no air which can blow off the pieces.
- ✚ Then the pieces are joined to each other like in a puzzle according to their geometrical shapes.

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