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Forensic Analysis of Security features in India Bank Cheque- Authentication & Recognition through Docucenter Nirvis

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Abstract: ***Cheque is one of the most important and commonly encountered financial documents by many individuals and banks for various financial transactions all over the world. Thus, the security and integrity of the cheque is the acute need. Different kind of security features are embedded in bank cheques in order to prevent fraud and counterfeiting of cheques and other bank security documents. Security features appended are in two different ways covert and overt features, some of which are watermarks, logo, serial number, A/c number etc. which can be viewed under different light sources and instruments for examination. In this study the embedded security features of Indian Bank Cheque are examined under instrument Docucenter Nirvis. After examination, deriving to the conclusion that the Indian bank note is appended with ample security features.***
Keywords: cheque, security features, embedded, examination, counterfeiting

I. INTRODUCTION

Cheques are the bank instrument that makes one bank to pay a specific amount of money to the payee or to a bearer from the bank holder's account.

The cheques are the most prevalent and widely used bank document whose chances of being counterfeited are maximum. For this reason the cheques are made by embedding security features so as to prevent their counterfeiting and thus preventing financial frauds. The technological advances such as advanced scanning, color printing and color copying have opened new doors for criminals to run their counterfeiting business, thus, making the fake cheque look real to the naked eye. In fact, the quality of counterfeits is so good that even experts find it difficult to recognize with naked eye and thus, the need of the aid of an instrument comes in picture.

The forensic document examiner deals with certain cases in relation to financial frauds that has been carried out in due course with financial document i.e cheque, making it necessary for the FDE to examine the various security features present in the cheques to draw a definite conclusion.[1-3]

II. EXAMINATION

In a real scenario, a used cheque is sent for forensic analysis when its authenticity is suspected. [4] Here in this study, forensic analysis of a genuine cheque is carried out to check for authentication and recognition with the help of an instrument used in document analysis i.e Docucenter Nirvis. [5] The instrument is fitted with integrated high resolution IR color digital camera (5 M pixel or 12 M pixel) with high IR sensibility and spectral range 350nm-1000nm light source that facilitates the examination of security documents. It posses excellent optics and it functions investigations under different light sources from short UV and in IR and IR luminescence ranges.

III. OBSERVATION

In the present study, it is observed that the cheques are being highly secured with the help of various embedded security features. The security features that are incorporated during the manufacturing and printing process were encountered and are observed in the Indian bank cheque as examined under Docucenter Nirvis were watermarks, colour system, UV visible features, micro lettering. (As per the Fig 1-3)

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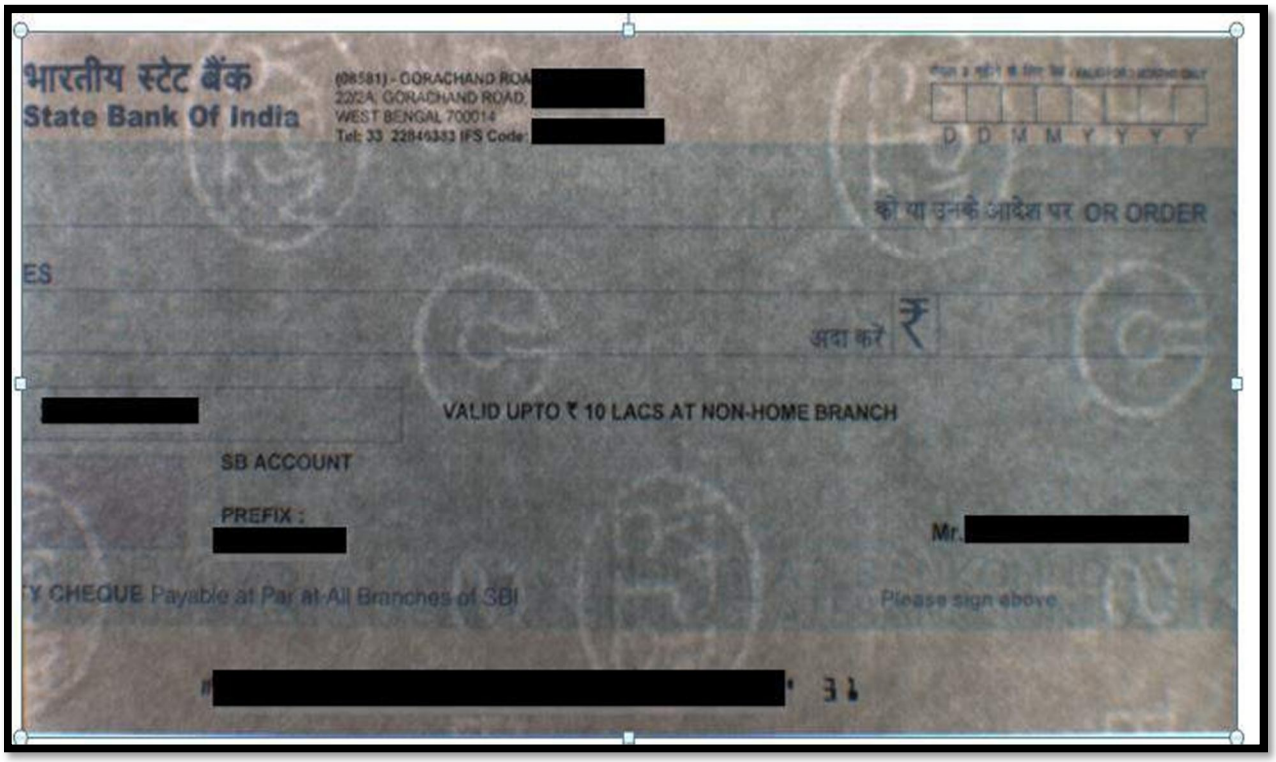


Fig 1: Watermarks under transmitted light source

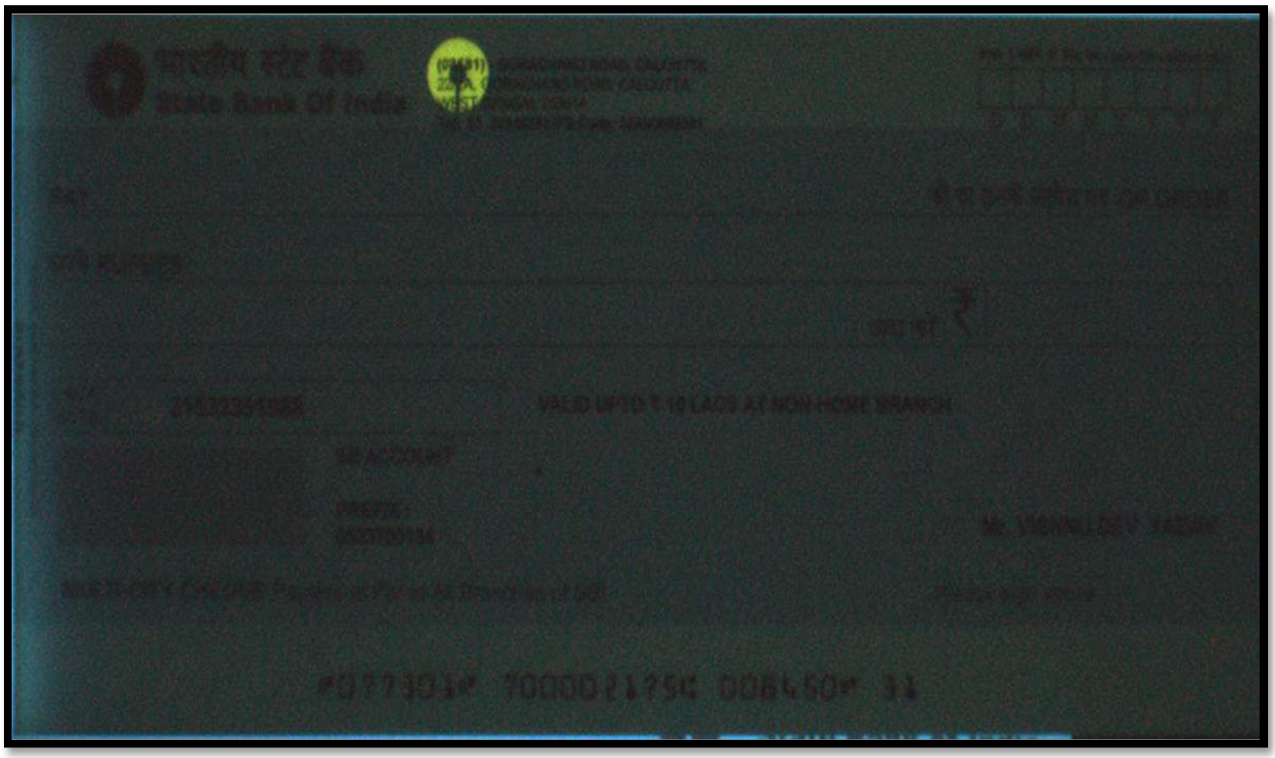


Fig 2: UV- Visible bank logo under UV 365nm

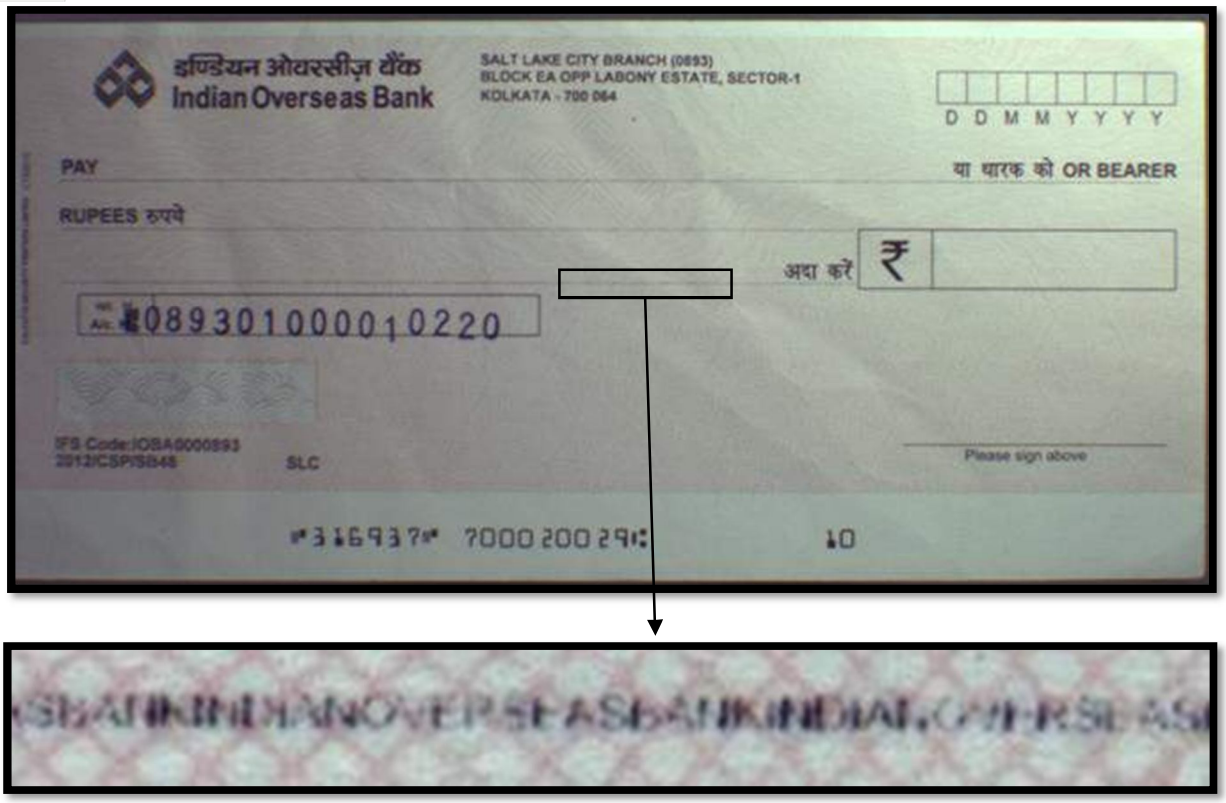


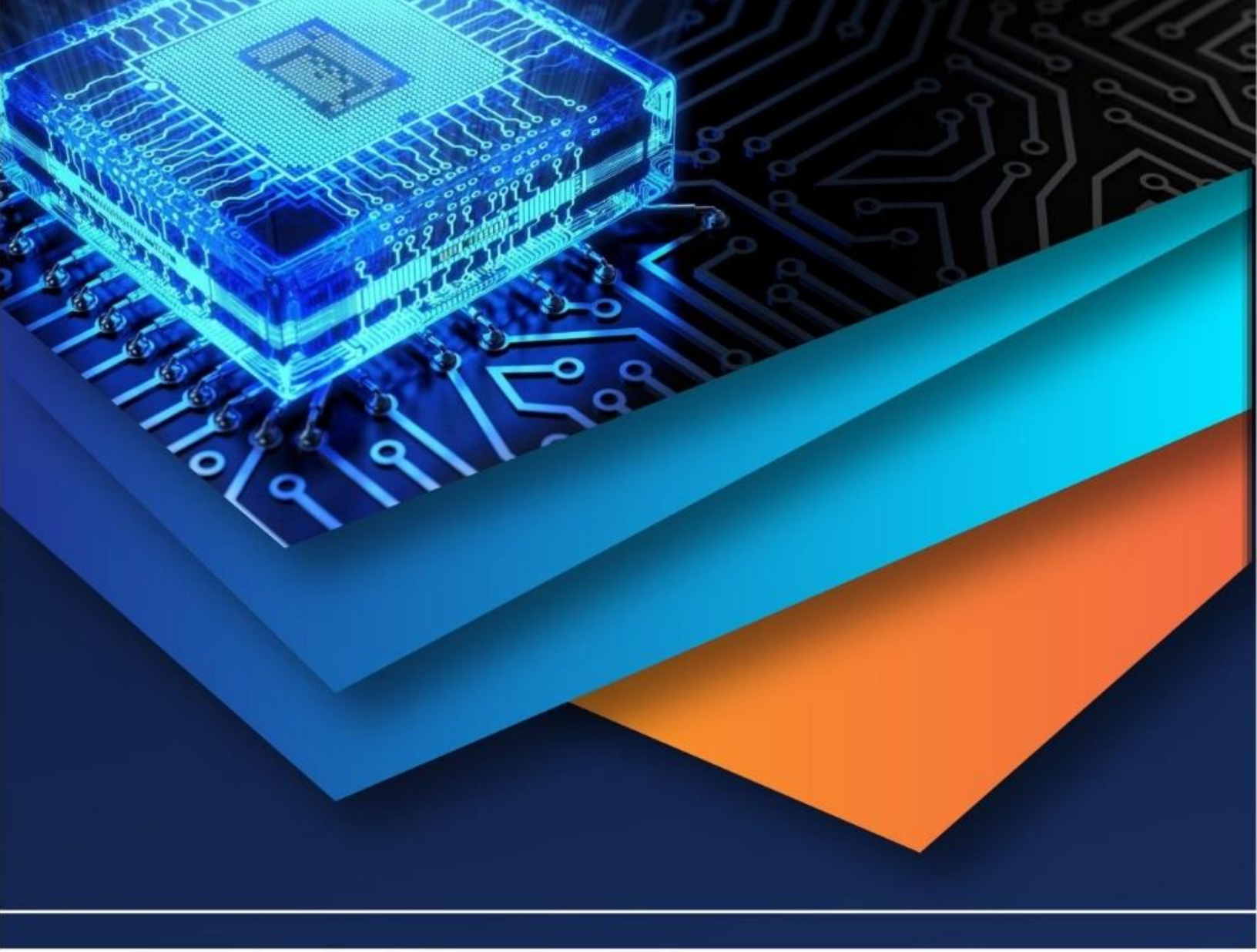
Fig 3: Micro Lettering under white light/visual light

IV. CONCLUSION

Various security features as appended in Indian bank are examined through this study, using Docucenter Nirvis which facilitates and makes it easy for the forensic document examiner in the future course in differentiating between the genuine and counterfeit cheque.

REFERENCES

[1] Kelly J Seaman, Lindblom B.S. Scientific Examination of Questioned Documents, Second Edition: Identification of Signatures: 9:75.2006
[2] A.S Osborn. Questioned Document. Nelson-Hall Co: Chicago, III.1929
[3] Rajesh Kumar Gupta, Gaurav Gupta. Forensic Authentication of Bank checks. Hal Open Science. hal-01758675
[4] Bhavya Sharma, Aman Sharma, Shipra Rohtagi, Bhuvnesh Yadav, A comparative study on security features of Indian, Canadian and Dubai Cheques. Forensic Research & Criminology International Journal:Vol 6 Issue 3 2018
[5] Suneet Kumar, Mahipal Singh Sankhla, Rajeev Kumar, Kapil Parihar, Ramesh Kumar Pandey, Vaibhav Saran, Forensic Analyis of security features in Indian currency denomination of Rs.500 Authentication and Recognition through Docucenter Nirvis Instrument.J Forensic Sci & Criminal Inves.2020:13(3)



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