1. INTRODUCTION

In early nineties India started implementing the uses of Information and Communication Technology i.e. ICT in various fields to deliver different services efficiently, effectively and securely among its citizens. This period witnessed the silent revolution in the domain of (ICT) and this actually accelerates the propulsion to reach and cater to the basic needs of the citizenry residing in the remote fringes of this country, having limited access to basic civic amenities. The authors are of the view that country’s one billion plus population with wide divergences in its demographic pattern really enhances the complexity of the governance of this country. Catering public services to this huge population is a great challenge to any civil administration. E-governance can be a suitable solution to this problem. The primary delivery models of e-Government can be divided into Government-to-Citizen or Government-to-Consumer (G2C), Government-to-Business (G2B), Government-to-Government (G2G), Government-to-Employees (G2E). Authors are of the opinion that though Indians have a strong presence in the software world, digitization of governmental services is still at its infancy in India. The present study tries to impose security in e-Governance transaction aspects where the implementation of e-Governance and the Information and Communication Technology (ICT) can be used to solve various needs of the masses. While accessing public services, citizens need to possess multiple instruments which will only validate their accessibility. Present instruments are very much requirement specific, but the authors are of the view that there should be only one electronic card with multipurpose functionality because issuance of multiple cards to an individual is not only economically infeasible but also leads to anomalies in data integrity. This Multipurpose Electronic Card (MEC) will be generated by the Government for its citizenry. For a new born baby the instrument will be issued from the lowest level of governance which will contain the information of an individual in encrypted form. Here involvement of cryptography becomes very much relevant in order to achieve the highest level of security.

E-government is an evolving area and most research in this field has been done in formulating challenges and barriers, implementation plan, evaluation/assessment and success factors of e-government while studies on knowledge management in e-government, readiness for e-government, e-Gov. process and security/privacy issues could get only limited attention. Quality in education sector is very important for development in any country. Education sector is the basic building block for so many
other sectors which are necessary for becoming a developed nation. In India not much attention is given to this sector and it is also considered as non-productive sector for various stakeholders including bureaucrats and politicians. Education sector may not be giving direct benefits but indirectly this sector is the beneficial for the democratic society. Keeping in view such benefits Right to Education Act has implemented in India so that poor man can also send their children to schools and get free education. Also certain welfare schemes for the students have been implemented by various state governments in India. For enhancing certain ICT skills among college students various state governments have started giving them Computers and other ICT related gadgets so that students may take keen interest in the technology and, may take full benefits of this technology in the future. Invention of the most economical tablets like Ubislate in India has confirmed this thinking. India is having a billion plus population and varied demography has excellent window of opportunity in this new economy. Our educational system needs to be substantially upgraded to impart globally competitive training if we have to make use of this opportunity. There is an urgent need to attract best of the students to teaching careers with reasonable opportunities, nurturing and a better option.

In case of Governance, corruption is in all walks of life in India. India was ranked at 85th place out of 179 countries in transparency international Corruption Perception Index. This index also stated that corruption in Indian politics and bureaucracy has taken toll on the overall development of the country. Latest survey by political and economic risk consultancy on the bureaucracy in Asia shows that respondents are impressed with the quality and efficiency of civil service in Singapore and they are least impressed with Indian bureaucracy. Also present movements by civil society confirm this fact. Citizens concern about inadequate and inefficient services at unbearable costs is transforming into anger and frustration. Now the time has come to frame super counters available online and eliminate the endless maze citizens have to negotiate in going from door to door, floor to floor to get services. Also time for services has to be cut from months and weeks to days and hours. ICT in education and e-governance applications will surely help in diminishing these problems. Secured websites will certainly help in transferring the basic information and services without any direct involvement of the bureaucratic procedures. At education level websites need to be developed and admissions forms may also be filled online. Out of these at the time of admission only selected candidates may get roll numbers and that information may be utilized by college authorities for various purposes. Purposes may be sending university
registration return and making bus pass etc. All such information is to be sent to various authorities in the digital format. Various Universities require registration return of the new students in the computer readable format. Also transport authorities have started to make bus passes through an online system. Hence the database created at the time of admissions may be utilized for this purpose by universities and transport departments for their respective purposes. But once database is involved on a website chance of breach of security of the website is increased. Database involving websites mostly suffer from the SQL injection attacks. In this attack certain queries are sent to legitimate users to take fruitful information from the database of the website of portal. Various issues related with website and web portal are broken links, accessibility, obsolete contents, non-availability of sitemap, search function etc. But here stress is given on security of these websites and portals which are of great matter of concern these days in India. Due to certain Information Technology (IT) related flaws in the system various offensive morphed images and videos have been uploaded on social networking sites to disturb peace and harmony in the country. In this regard certain social networking sites have refused to cooperate and India had to share information with US because most of the social networking sites web servers and head offices are there in US. It has also been found that Proxy servers and Virtual Private Network (VPN) service that hides the identity of the users operating from various countries has been used for uploading such hate & low level content. Such instances force one to think about the security issues of the websites. Hackers after having control over the website may deface and change the content as he likes. Hence security of web portals is major burning issue now days. The information available in student database may be needed by various entities directly or indirectly.

The number of vulnerable targets within the network (communication protocols, operating systems, servers, databases, etc.) has increased a lot. Hackers want to know more and more system internal details. After identifying the services and infrastructure of the target system hackers can proceed to the next step of exploiting the services. Services can be exploited by identifying known and unknown vulnerability in the target systems. Hackers can also exploit errors in the system configuration or other components of the system. Less expensive devices if used in any transaction system will be more vulnerable as compared to costly devices because of lack of certain features. Whereas costly devices may have highly typical security features that may be easy for
the intruders to turn off useful features and device may start giving wrong results. A sophisticated intruder may modify the device so that it maliciously manipulates management activities, deliberately providing inaccurate or misleading information to network administrators. Hackers’ first check connected devices and trace route of the target before going further to attack on particular site or portal. A number of tools are available in market to get information about devices that are connected to the network. These tools are based on two approaches for gathering information. If this information is available to management or service queries it may prove invaluable in network vulnerability analysis. Firewalls, security gateways (VPNs), web proxies and other application servers often acquire and store information about network neighbours. A patch enhances the security of the software, to mitigate eventual threats. But this strategy is also not successful to control threats and vulnerabilities. More intrusions take place after a patch have been released, than before. This shows that patches are not installed even when vulnerability clearly exists. Most of users are unaware of the situation, and also do not apply the patch even if it available.

In this age of digitization education sector has also changed a lot. The new technology and gadgets available help us not only enrich and enhance our existing education system but also offer new opportunities and modes which can take the process of learning beyond institutions and allow people to learn on their own time and own terms. This new technological environment has forced us to think how to tap this technological potential. Choice of the portals for vulnerability scanning is an important issue. Delivery of services through Internet and websites has increased lot in the last decade. A new kind of administration namely Virtual administration is taking place in the society. A large number of government websites have been set up in India over the last few years to deliver a wide variety of information and services to its citizens. The concepts of quality and security for a website need to be quantified in some way to avoid subjective interpretations. Delivery of services through Internet and websites has increased lot in the last decade. Websites are collection of Web Pages and portals are collection of websites. Portals cover a wider range of functions, and they can be designed to cater for specific demands of their users. Major aim of portals is to provide information about services. It provides the complete details about performing a particular function. For citizen service related matters it has all details about physical location of the office if user wants to visit, he may download forms available online and most importantly the
portal may have varied types of services for the convenience of the citizens. Moreover such portals provide variety of services at a single place and users need not to visit many offices to complete a particular job. That is why many of the times such portals are named as one stop portals. Portals of educational Institutes must have sufficient information and download facility so that fewer people prefer to visit physically these offices. Some of the information may be like courses offered number of seats course wise, institution affiliated to, details of faculty member subject wise so that neither parents nor students feel cheated after getting their admissions in educational institutes. As compared to banking and e-government portals educational websites have less important information. The information contained in educational portals may have students and teachers databases, infrastructure, courses and such type of other details. This type of whole information is not as fruitful as it can be any banking or e-government website. For a hacker banking and e-government information is more fruitful as compared to educational websites information. But for a common man information is just information and it has great value for the organization and the user itself. Hence for the sake of information to the stakeholders four educational institutes websites have been taken. The results obtained will certainly help in the improving the websites from security point of view. Security of networks is one of the important problems of modern information technology. The importance of security of networks is confirmed by permanently increasing significance of information itself, growing size and interconnectivity of networks, number of users and by potentially devastating consequences of successful attacks on integrity, confidentiality and availability of network recourse. Unauthorized access to facilities and network resources, especially in global networks (such as Internet) participating in real-time control operations, may be really disastrous. The following websites have been tested for vulnerability through Acuentix Web Vulnerability Software (WVS). Haryana state was formed on 1 November 1966, on the recommendation of the Parliamentary Committee. The state is divided into four divisions for administrative purpose - Ambala, Rohtak, Gurgaon and Hisar Division. There are 21 districts, 47 sub-divisions, 67 tehsils, 45 sub-tehsils and 116 blocks in Haryana. Haryana is the state in India that surrounds the national capital from three sides and its own capital as Union territory Chandigarh. Its area is 44212Km2 and population is 25,353,081 as per 2011 census. Literacy rate in Haryana is 76.64 and sex ratio is 877. Haryana Government has its own state-wide area network by which all government offices of all districts and blocks across the state are connected.
with each other thus making it the first SWAN of the country. As per latest report of University Grants Commission (UGC), Haryana has scored high on setting up of educational institutes and enrolment of students as compared to its neighbouring states like Punjab, Himachal Pradesh, Uttrakhand, Chhatisgarh, Jharkhand and Jammu Kashmir. State boasts of having 22 Universities and 902 colleges. All these institutions are providing higher education in various streams in Haryana. All these colleges taken in consideration are degree colleges offering various undergraduate and post graduate courses