Annual Work Report
Part A
SELF ASSESSMENT BY THE OFFICER REPORTED UPON

3. Area of S&T Function

i)Software Application Design, Development and Implementation ii)Automation of Various Requirements iii)Training iv)Technical Support and Coordination v)Attending various meetings related to eGovernance and provided ICT solutions.

4. Brief Description of S&T work function

i)Software Application Design, Development and Implementation : Conceptualized and Developed the following software applications, which were implemented in the Govt of NCT of Delhi.

a)Compliance Monitoring System of Bhagidari Issues through VC
b)e-Gazette
c)Delhi Assembly Election 2008
d)Counselling for CET 2008
e)My Delhi I Care Monitoring System
f)General Elections to the Parliamentary Election 2009.
g)BTF Monitoring System
h)Counseling for CET-2009
i)General Elections to the Parliamentary Election 2009.
j)BTF Monitoring System
k)Counseling for CET-2009
l)CET-2010
m)NSIT-2010
n)E-Litigation
o)File Monitoring System
p)PMS
q)Counseling 2011
r)e-Litigation
s)e-Clipping
t)VIR-SFU Monitoring System

ii)Technical Support and Coordination : Provided technical support in implementation of each software application. Coordinated various activities related to effectively use of the eGovernance.

iii)Training : Approx 100 Training Sessions organized for Govt of NCT of Delhi Departments to implement the above 20 software applications.

iv)Automation of Various Requirements : Automation of every small requirement plays a very vital role in effective implementation of e Governance. Keeping in view the same, various requirements of Chief Ministers Office, Delhi were automated like Daily Appointments, Daily Schedules, maintaining the database of VIPs Invitation etc, software for management of bhagidari questionaire.

v)Attending various meetings related to eGovernance and provided ICT solutions : Participated in various meetings on eGovernance and provided ICT Solutions like
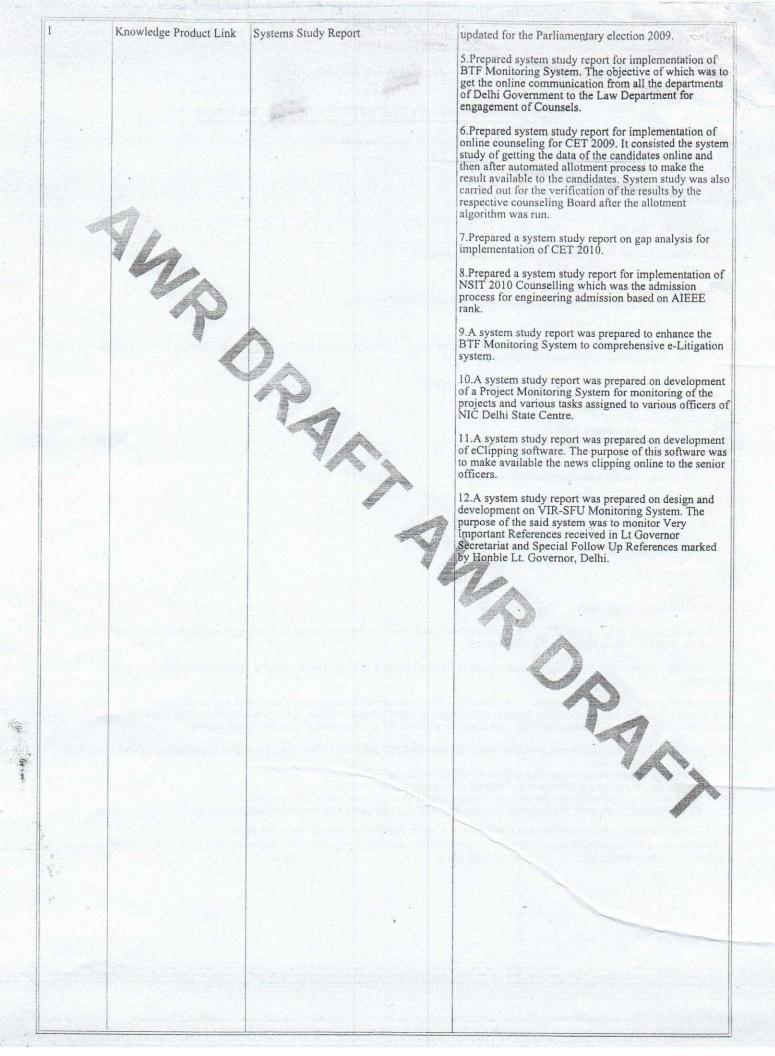   a) Introduction of online counselling system for admission to various courses,
      b) Online system for submission of request for engagement of a counsel
    c) Developing a online system for entry of clipping and its availability of senior officers online.
    d) Developing a system to integrate and monitor the important references into the general dak system. etc.

5. S&T output indicators for assessment and measurement of work function (as appropriate to the officer)

Sl No	Product Link	Sub Category	Details

1	Knowledge Product Link	Systems Study Report	updated for the Parliamentary election 2009.
			5.Prepared system study report for implementation of BTF Monitoring System. The objective of which was to get the online communication from all the departments of Delhi Government to the Law Department for engagement of Counsels.
			6.Prepared system study report for implementation of online counseling for CET 2009. It consisted the system study of getting the data of the candidates online and then after automated allotment process to make the result available to the candidates. System study was also carried out for the verification of the results by the respective counseling Board after the allotment algorithm was run.
			7.Prepared a system study report on gap analysis for implementation of CET 2010.
			8.Prepared a system study report for implementation of NSIT 2010 Counselling which was the admission process for engineering admission based on AIEEE rank.
			9.A system study report was prepared to enhance the BTF Monitoring System to comprehensive e-Litigation system.
			10.A system study report was prepared on development of a Project Monitoring System for monitoring of the projects and various tasks assigned to various officers of NIC Delhi State Centre.
			11.A system study report was prepared on development of eClipping software. The purpose of this software was to make available the news clipping online to the senior officers.
			12.A system study report was prepared on design and development on VIR-SFU Monitoring System. The purpose of the said system was to monitor Very Important References received in Lt Governor Secretariat and Special Follow Up References marked by Honble Lt. Governor, Delhi.

| 2 | Technology Product Link | Design, Development, Deployment of hardware, software and electronics products | 1. Designed and developed the software application on Compliance Monitoring System of Bhagidari Issues coming through Video Conferencing using the technology ASP.Net as Frontend and SQl Server as backend. Deployed the application on web server to run it on the internet using IIS and .Net Framework and SQL Server as database.

2. Designed and developed the algorithm for allotment of various seats for admissions in Visual Basic for CET Counselling. The database was used as SQL Server.

3. Designed and developed software application for eGazette using the technology ASP.Net as Frontend and SQl Server as backend. Deployed the application on web server to run it on the internet using IIS and .Net Framework and SQL Server as database.

4. Designed and developed software application for My Delhi I Care Fund Scheme using the technology ASP.Net as Frontend and SQl Server as backend. Deployed the application on web server to run it on the internet using IIS and .Net Framework and SQL Server as database.

5. Designed and developed a system to integrate the data of all the districts used in the Assembly Elections and to redistribute in all the seven parliamentary constituencies as per guidelines of the Election Commission. The technology used was ASP as frontend and MS-SQL as backend. MS-Access was used to redistribute the data.

6. Designed and developed a software for BTF Monitoring. The facility for online submitting the request to Law Department by all the departments of Govt of NCT of Delhi was provided for engagement of Counsels. An algorithm was developed to show the list of all eligible counsels to be engaged in a case by the Law Department. The technology used was ASP.Net as frontend and MS-Sql as backend. It is a web based software. |
| 3 | Technology Product Link | Technical initiatives | 1. Taken the technical initiatives to extend the CET 2008 to CET 2009 for admission to diploma courses.
2. Taken the technical initiatives to implement the algorithm of NSIT 2010.
3. Taken the initiatives to add more reports for the verification of result after the allotment algorithm.
4. Taken the technical initiatives to implement the DTU 2011 Counselling.
5. Taken the technical initiatives to implement the NSIT 2011 Counselling.
6. Taken the technical initiatives to design, development and implementation of eClipping Software.
7. Taken the technical initiatives to find out feasibility to implement Project Monitoring System for internal monitoring of projects and tasks assigned to various officers of NIC Delhi State Centre and finally design, developed and implemented the software.
8. Taken the technical initiatives to change the technology of the file monitoring system from ASP to ASP.net. and to implement the concept of Bar Code Scanning to diary and dispatch the files. |

| 4 | Technology Product Link | Process know-how | 1. Studied each and every process of counselling from the level of registration of students, choice filling, various reservation rules and provided an automated solution for the complete admission process through counselling.

2. Studied and understood the complete process of Litigation with various terminology of the department/court and provided a complete solution for the implementation of eLitigation and also reengineered the process of engagement of lawyer based on certain algorithm.

3. Understood the complete process to implement Project Monitoring System for internal monitoring of projects and tasks assigned to various officers of NIC Delhi State Centre and finally design, developed and implemented the software.

4. Understood the concept of Very Important References and Special Follow Up Letters in any dak system and provided a software tool to monitor and generate certain MIS Reports and also provided a linkage of it with the already running Letter Monitoring System. |
| 5 | S and T Management Product Link | S and T data base reports | 1. Prepared minutes of meeting from already entered issues and directions and provided the facility to see it from district after finalisation.
2. A detailed status report was prepared for each issues and corresponding action taken time to time.
3. Preparation of Despatch Register, NCTD Register, Gazette forwarding letter, Notification Forwarding letter for press, objection letter for department, Status Report on e Gazette.
4. District wise fund utilization report on My Delhi I Care Scheme.
5. District wise status report on new projects submitted and project status.
6. Case Statistics depicting the no of pending cases department wise in e Litigation.
7. List of cases where date of hearing is pending to be updated.
8. List of Cases where case no is pending to be entered in e Litigation
9. Printing of various certificates (Pre-allotment and Post allotment) with the relevant data to be signed by the user.
10. Subject Wise no of news published pertaining in a particular period.
11. Agency Wise positive/negative news category wise in a particular period.
12. List of departments not taking action on negative news.
13. Department wise Abstract of VIR/SFUs
14. Officer Wise Abstract of VIR/SFUs
15. List of Due and Delayed VIR/ SFUs
16. List of Disposed VIR/SFUs
17. Fortnightly abstract of Pendency and Disposed VIR/SFUs
18. Fortnightly list of delayed VIR/SFUs |

6	S and T Management Product Link	Technical support - internal and external	1.Technical Support provided in the implementation of DISE software in Delhi Assembly Elections to all the nine districts. DISE software was used for the randomization of EVM Machines, Two level of randomization for the Polling Staff.
			2.Technical Support provided in the implementation of eGazzete software.
			3.Technical Support provided in the implementation of CET 2008.
			4.Technical Support provided in the implementation of BTF Monitoring.
			5.Technical Support provided in the implementation of e Litigation.
			6.Technical Support provided in implementation of Parliamentary Elections.
			7.Technical Support provided in the implementation of CET 2009
			8.Technical Support provided in the implementation of CET 2010
			9.Technical Support provided in the implementation of CET 2011
			10.Technical Support provided in the implementation of NSIT 2010
			11.Technical Support provided in the implementation of NSIT 2011.
			12.Technical Support provided in the implementation of DTU 2011.
			13.Technical Support provided in the implementation of NSIT 2011.
			14.Technical Support provided in the implementation of Bar Code Scanning system for diary and dispatch of files.
			15.Technical Support provided in the implementation of VIR-SFU System.
			16.Technical Support provided in the implementation of Bhagidari Issues Monitoring System.
			17.Technical Support provided in the implementation of My Delhi I Care System.
			18.Technical Support provided in the implementation of e Gazette.
			19.Technical Support provided in the implementation of PMS.
			20.Technical Support provided in the implementation of eClipping.
7	S and T Services Product Link	Preparation of Technical Manuals	1.Prepared the User Manual for the use of eGazette Software.
			2.Prepared the User Manual of My Delhi I Care Fund Scheme Software
			3.Prepared the user manual of BTF Monitoring. System
			4.Prepared the user manual of eLitigation.

8	S and T Human Resource Product Link	Training and courses developed, designed	1. Developed and designed the training course for eLitigation. 2.Developed and designed the training course for VIR-SFU Monitoring System. 3.Developed and designed the training course for File Monitoring System. 4.Developed and designed the training course for Letter Monitoring System. 5.Developed and designed the training course for the various counselling applications.
9	Societal Outreach of S and T Outputs	Monitoring implementation of govt. schemes and dissemination to public using ICT tools	1.An ICT Solution was implemented by automating the submission of all the local Issues of Resident Welfare Associations. Subsequently automated the process of entering the directions to resolve and action taken by the concerned authorities. 2.An ICT Solution was implemented by automating the submission of all the all projects under My Delhi I Care Scheme and monitoring system for viewing the progress and dissemination system was developed. 3.An ICT solution was provided for registration of students for admission to diploma courses online and providing them the allotment of seat information online. 4.An ICT solution was provided for registration of students for admission to Engineering level students online and providing them the allotment of seat information online.
10	Technology and Tools Product Links	R and D for new tools/algorithms for ICT solutions	1.Developed an algorithm for allotment of seats in CET Counselling 2009 2.Developed an algorithm for allotment of seats in NSIT Counselling 2010 3.Developed an algorithm for allotment of seats in DTU Counselling 2011 4.Developed an algorithm for reverse verification of allocation of seats in CET Counselling 2010. 5.Developed an algorithm for reverse verification of allocation of seats in NSIT Counselling 2010. 6.Developed an algorithm for reverse verification of allocation of seats in DTU Counselling 2011. 7.Developed an algorithm for assignment of counsels slot wise and merit wise 8.Developed an algorithm for extracting the data dept wise of the Assembly Elections for the updation by the departments for the use of Parliamentary elections. 9.Developed an algorithm for merging the updated data automatically received from the various departments. 10.Developed an algorithm for finding out the duplicacy in the merged data. 11.Developed an algorithm for redistributing the data, parliamentary constituency wise. 12.An algorithm was developed to run a pre-allotment diagnostic test which included all data validation test, consistency check etc
11	ICT Project Management Product Link	Project Planning/preparing proposals, Approval, Finance and Procurement, Monitoring, Evaluation, Implementation	1.Prepared the project proposal for CET Counselling 2008 2.Prepared the project proposal for CET Counselling 2009 3.Prepared the project proposal for CET Counselling 2010 4.Prepared the project proposal for NSIT Counselling 2010 5.Prepared the project proposal for CET Counselling 2011 6.Prepared the project proposal for NSIT Counselling 2011 7.Prepared the project proposal for DTU Counselling 2011 8.Prepared the project proposal for eClipping

12	ICT Services Product Link	Design and Development of Technology Solutions	1.Designed and developed the technology solution for egazette. 2.Designed and developed the technology solution for getting data of polling staff for the parliamentary elections. 3.Designed and developed the technology solution for various online counsellings. 4.Designed and developed the technology solution for eLitigation 5.Designed and developed the technology solution for eClipping of News 6.Designed and developed the technology solution for My Delhi I Care Scheme Monitoring 7.Designed and developed the technology solution for monitoring of the projects and tasks assigned to various officers of NIC Delhi State Centre 8.Designed and developed the technology solution for implementing a system for monitoring the action taken on the issues of Resident Welfare Association.
13	ICT Services Product Link	User Acceptance and Testing	1.UAT was prepared for choice filling module for CET 2008 2.UAT was prepared for online counselling of CET 2009 3.UAT was prepared for online counselling for CET 2010 4.UAT was prepared for online counselling for NSIT 2010 5.UAT was prepared for online counselling for NSIT 2011 6.UAT was prepared for online counselling for CET 2010 7.UAT was prepared for online counselling for DTU 2011 8.UAT was prepared for online counselling for CET 2011
14	ICT Services Product Link	Development of Application software	1.Compliance Monitoring System of Bhagidari Issues through VC 2.e-Gazette 3.Delhi Assembly Election 2008 4.Counselling for CET 2008 5.My Delhi I Care Monitoring System 6.General Elections to the Parliamentary Election 2009. 7.BTF Monitoring System 8.Counseling for CET-2009 9.General Elections to the Parliamentary Election 2009. 10.BTF Monitoring System 11.Counseling for CET-2009 12.CET-2010 13.NSIT-2010 14.E-Litigation 15.File Monitoring System 16.PMS 17.Counseling 18.e-Litigation 19.e-Clipping 20.VIR-SFU Monitoring System
15	ICT Services Product Link	Preparation of Technical Documents / Manuals	1.Prepared the User Manual for the use of eGazette Software. 2.Prepared the User Manual of My Delhi I Care Fund Scheme Software 3.Prepared the user manual of BTF Monitoring. System 4.Prepared the user manual of ELitigation. 5.Prepared the SRS for CET Counselling 2009 6.Prepared the SRS for CET Counselling 2010 7.Prepared the SRS for NSIT Counselling 2010 8.Prepared the SRS for NSIT Counselling 2011 9.Prepared the SRS for DTU Counselling 2011 10.Prepared the SRS for CET Counselling 2011 11.Prepared the MOU for CET Counselling 2009 12.Prepared the MOU for CET Counselling 2010 13.Prepared the MOU for NSIT Counselling 2010 14.Prepared the MOU for DTU Counselling 2011 15.Prepared the MOU for NSIT Counselling 2011 16.Prepared the MOU for CET Counselling 2011

6. Enumeration of major outputs from S&T Function

SI No	Product Link	Sub Category	Units
1	Knowledge Product Link	Systems Study Report	12
2	Technology Product Link	Design, Development, Deployment of hardware, software and electronics products	6

3	Technology Product Link	Technical initiatives	8
4	Technology Product Link	Process know-how	4
5	S and T Management Product Link	S and T data base reports	18
6	S and T Management Product Link	Technical support - internal and external	20
7	S and T Services Product Link	Preparation of Technical Manuals	4
8	S and T Human Resource Product Link	Training and courses developed, designed	5 ✓
9	Societal Outreach of S and T Outputs	Monitoring implementation of govt: schemes and dissemination to public using ICT tools	4 ✓
10	Technology and Tools Product Links	R and D for new tools/algorithms for ICT solutions	12 ✓
11	ICT Project Management Product Link	Project Planning/preparing proposals, Approval, Finance and Procurement, Monitoring, Evaluation, Implementation	8 ✓
12	ICT Services Product Link	Design and Development of Technology Solutions	8 ✓
13	ICT Services Product Link	User Acceptance and Testing	8 ✓
14	ICT Services Product Link	Development of Application software	20 ✓
15	ICT Services Product Link	Preparation of Technical Documents / Manuals	16 ✓

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7. Innovation content of work done (about 100 words)

-Work flow based ICT solution
-Ease in decision making through proper monitoring.
-An automated allotment algorithm was developed which run without user intervention and processes lacs of candidates having their multiple choice for allocation of the most priority choice as per applicable rules and availability of seats.
-An reverse algorithm was developed to verify the allotment of seats automatically and display a list of rank violated candidates.
-An algorithm was developed to run a pre-allotment diagnostic test which included all data validation test, consistency check etc
-Automated the process of generating the certificates for signing of pre and post allotment data by the user before publishing of the result for all the counsellings of Delhi.
-Integration of VIR/SFU Monitoring System is a module which has the vast impact on the monitoring of important references addressed to Honble Lt. Governor. It has facilitated the user to maintain the single entry of the letter.
-Timely delivery of clippings electronically to the important places like Honble Chief Minister, Honble Lt Governor and other Secretaries and timely reverts of the negative news by the department has improved the decision making of the Government.
-Integrated e litigation monitoring system and conceptualized for btf and curt cases monitoring which includes monitoring day today court proceedings and also generates the list of upcoming cases, enabling the departments to get facilitation to prepare the details of the case.
-Bar Code facility was integrated in the file monitoring system for diary and dispatch through bar code scanning.
-Parliamentary election data entry cost was saved of the department and hence time was also reduced to the minimum. I was the core team member.
-Module for online entry of Issue/directions was developed which has facilitated honble cm to resolve the issues during conferencing itself by having the complete status.
-User friendly applications
-Role based access of databases
-Role based access to the users using the software applications
-Reduction in human interferences
-Regular decisions and calculations are inbuilt in the application so that they are devoid of human error.
-Yield of best practices and tending towards decent work culture
-Drastic reduction in manpower overheads and augmentation of state exchequers

8. Major impact reported during the financial year (if any) for work done during previous three years.

- Reduction in paperwork and offices are converted to less-paper offices
-Computerised databases and report generation has speeded the compliance to stakeholder.
-Record Keeping and achieving has become easy and maintainable with no papers and in lesser space.
-There is strong backup system as State Data Centre (SDC) in every state where data stored are regularly updated as backup.
Parliamentary election data entry cost was saved of the department and hence time was also reduced to the minimum. I was the core team member.

9. Scientific and technological methodologies used in the work function

- Software Development Life Cycle (SDLC)
- Problem analyzing approach
Gathering requirement for proposed business solution
-Devising a plan or design of software based on the latest technology
-Implementation of the application software through the effecting training and designing of the course material.
-Testing the software
-Deployment
-Maintenance and bug fixing

10. Suggestions (if any) for work functions based on new or emerging scientific principles

-Cloud based technologies and working environment
-Use of the digital signature for signing of the documents
- Regular Inter State Workshops should be organised to exchange the expertise.

11. New technologies if any introduced by the officer in work plan/functions

- Web Based software were developed.
-ASP.Net was used as the frontend technology
-MS-SQL Server was used as the backend technology
-Bar Code Reader facility was introduced for diary and dispatch in File Monitoring System

12. Any other highlight of special S&T content in the work

i)Strategy for designing schemas of the databases and implementation of the normalization in the designing of the tables. Implementation of referential integrity, foreign key concepts and constraints on the database tables for consistency of the data.
ii)Pivot role play as a technical member for the process reengineering for the various Government services being delivered to the citizens.
iii)Strategic planning for overall designing of the software as a project, partitioning the software in cohesive modules and finalization of the platform, keeping in view the various aspect related to the software, on which software will be designed and developed.
iv)Review and overall monitoring which includes both technical and non-technical aspects for the writing secure programming code for the software.
v)Review, management and overall supervision throughout the software development life cycle.
vi)Conducting and planning the training sessions for the users so that smooth implementation can be achieved of the software.
vii)In depth discussions with the stakeholders to devolve on the various hidden facts precious to the designing and development of the software.
viii)Addressing operational queries and support to the users on the software.
ix)Planning and identification of technical infrastructure required for the implementation of the software.
x)Review and monitoring of overall implementation / functioning of various projects , in order to achieve desired output as per the envisaged plan.
xi)A paper titled An optimized e-Allotment Algorithm for Admissions in Educational Institutes was published in IEEE Conference named International Conference on Technology Enhanced Education during 3-5 January 2012.

13. One page summary of the scientific and technical elements in the work done during the financial year

i)Conceptualized, designed, developed approx 20 software applications using Design Methodologies and s/w quality best practices. In most of them, the process reengineering was proposed.
ii)Designed database schemas in each software application and implemented normalization in the designing of the tables. Implementation of referential integrity, foreign key concepts and constraints on the database tables for consistency of the data were implemented. Proper indexes were generated for fast data retrieval.
iii)All almost 15 efficient algrorithms were designed by taking care of optimization standards and complexity issues. A lot of optimization were carried out for the counselling allotment algorithm.
iv) SRS, User Manuals were prepared as per the industry standards.
v)Conducting and planning the training sessions for the users so that smooth implementation can be achieved of the software.
vi)A paper titled An optimized e-Allotment Algorithm for Admissions in Educational Institutes was published in IEEE Conference named International Conference on Technology Enhanced Education during 3-5 January 2012.
vii)Review, management and overall supervision throughout the software development life cycle.
viii)Role based access of databases
ix)Role based access to the users using the software applications
x)Performance and Scalability Concerns
xi)Interoperability Concerns

14. Quantified S&T outputs as per the selected indicators (Annexure to Annual Work Report)

Total Score : 300