

A decorative graphic on the right side of the page featuring three concentric blue circles of varying sizes. Two thin blue lines intersect at the top right, forming a large 'X' shape that spans the right half of the page.

# e-Elect.in, Automation of Election Programme

Election process is implemented in a standard and time bound manner across the country. Accuracy and transparency are the critical success factors of the process.

In the recent years, there is increased broadband penetration. Internet and web technologies have improved substantially. Computer literacy is a fast growing phenomenon in India. Hence there is faster adoption of e-Governance by the government organizations as well as the citizens.

Automation of election process is a necessity of time which shall yield high returns in terms of speed of information, accuracy, cost savings, transparency of process and many more benefits.

This white paper provides an overview on Automation of end to end Election Programme and shares the experience of implementation of e-Elect.in based on Software-as-a-Service (SaaS) model.

**By:**  
**Infinite IT Solutions Pvt Ltd (IITS)**  
**&**  
**Nanded Waghala City Municipal Corporation (NWCMC)**

**15/Oct/2012**

### Table of Contents

1	Introduction.....	1
2	Manual Election Process .....	1
3	A deep Dive into e-Elect.in .....	3
3.1	System Architecture .....	3
3.2	Functionality available in e-Elect.in.....	3
3.3	Deployment Model .....	4
4	Experience at NWCMC .....	5
4.1	Benefits Experienced.....	5
5	Future Roadmap for e-Elect.in .....	6
6	Conclusion .....	6
7	Appendix “A”: About IITS .....	7
8	Appendix “B”: e-Elect.in Process Diagram .....	8
8.1	List of Reports Provided in e-Elect.in are .....	9
9	Appendix “C”: Diagrammatic representation of e-Elect.in Implementation: .....	10
10	Appendix “D”: Feedback on Automation of Election Programme, Nanded Election 2012.....	11

# 1 INTRODUCTION

---

India is a constitutional democracy with a parliamentary system of government, and at the heart of the system lies a commitment to hold regular, free and fair elections. The Election Commission takes conscious efforts to conduct the electoral exercise to the satisfaction of all stake holders and participants, namely, political parties, candidates and the electorate.

Election process involves a number of sub processes from announcement of election dates by the State Election Commission (SEC) to the announcement of results and submission of the list of elected candidates to the Gazette.

Election Process is well-established and is followed precisely in the same manner for all the states in the country. At a state level, elections are held for Rural & Urban Local Bodies, Municipal Corporation, Zilla Parishad, Gram Panchayat, Municipal Council and Nagar Panchayat.

Implementing 'automation of election process' offers significant opportunities for gains in efficiency, compliance, and most importantly provides higher transparency to the electoral process.

This white paper shares the experience of implementation of automated Election Process for Municipal Corporations. It also covers different areas in the election process that can be automated further.

## 2 MANUAL ELECTION PROCESS

---

Returning Officers (ROs), appointed by the SEC, are put in charge to receive nominations of candidates in each ward (i.e. Constituency) and oversee the formalities of the election.

Before the elections, the process of ward formation and reservation of seats is conducted as per the rules and regulations of the Election Commission. Once the ward formation is complete, the voters' list for each ward is prepared and published.

### **a) Declaration and publishing of the election schedule**

SEC publishes the election schedule stating dates / period of filing the nomination forms, Scrutiny of nomination papers and withdrawals, symbol allocation, declaration of contesting candidates, publishing voting booth details, date of voting, counting, publishing results and filing the same with the Gazette.

### **b) Filing of nomination form**

Any citizen, who wants to contest the election, can file his/her nomination papers during the period of filing nomination forms. His/her name must be there in the voters' list and he/she should be eligible to contest the election as per the criteria. His/her name should be proposed and seconded by the voters of

that ward. Every proposed candidate has to deposit appropriate security along with his/her nomination papers.

### **c) Scrutiny of nomination papers and withdrawals:**

ROs carry-out scrutiny of Nomination Forms received during the period of scrutiny. As per the election rules, submission of certain proofs is mandatory for the scrutiny. The nomination form is rejected if the nomination papers are found incorrect or insufficient, in case of valid objections, criminal record etc. After the scrutiny, validly nominated candidates can withdraw their nomination/s during the withdrawal period.

### **d) Election campaign:**

The next stage in the election process is the election campaign by various candidates and political parties. The election campaign normally ends 48 hours before the day of Voting. Although every political party and candidate is free to do their election campaign they have to abide by the election laws.

### **e) Model code of conduct:**

In addition to the laws, all the political parties in the country have agreed to a model code of conduct for the election campaign.

### **f) Voting:**

For voting, election booths are set up. Voters go to the polling booths and cast their votes for the candidate/s of their choice on the day of Voting. Electronic Voting Machine (EVM) is used to record votes. EVM has the names of the candidates and their election symbols. The voters have to press the button against the name and symbol of the candidate they wish to vote for.

### **g) Counting of votes and declaration of result:**

After the voting is over, the ballot- boxes are sealed and taken to the counting centers. There the ballot boxes are opened before the candidates or their agents and votes are counted under the supervision of the RO. A candidate who gets the highest number of votes is declared elected.

During the entire Election Programme, Head of the Local Body and ROs are expected to submit regular progress reports and “List of candidates at each phase” to the SEC. Certain attached documents (such as affidavit) of the Nomination Forms are required to be uploaded on the website of SEC. These documents are available to public for viewing.

### 3 A DEEP DIVE INTO E-ELECT.IN

---

#### 3.1 SYSTEM ARCHITECTURE

e-Elect.in is a web based application developed by Infinite IT Solutions Pvt Ltd (IITS). It uses latest, scalable, robust, and secured open source technologies of the industry. e-Elect.in is designed and developed on Software-as-a-Service (SaaS) architecture. The architecture can effectively support automation of multiple election programmes simultaneously (multi-tenant mode).

Application accepts data in Unicode format and hence supports different regional languages. e-Elect.in uses robust and scalable architecture and is delivered securely via the Internet. IITS owns the responsibility to carry out software revisions, if any, arising due to change in procedures of election.

#### 3.2 FUNCTIONALITY AVAILABLE IN E-ELECT.IN

e-Elect.in captures data of various phases during the Election Programme with simple and user friendly screens. It provides online validation of information entered into the application. All statutory required reports are available in e-Elect.in. All reports are neatly formatted and can be viewed on screen or can be downloaded and saved in MS Excel (.xls) format. Powerful online dashboards / on-screen queries are available which help to get the progress of election at a glance.

Using e-Elect.in as a single window, local body, SEC officials, ROs are able to gauge the election progress at all times.

Information approved by the ROs at appropriate stages can be instantly viewed by Candidates, Citizens, Media people making e-Elect.in as a single gateway to track Election Progress right from acceptance of Nomination Forms to declaration of results.

Appendix “B” provides Process diagram and List of various reports available in e-Elect.in

##### **a) Filing of nomination form**

At present only the relevant data of the Nomination Form is accepted into the system.

During the ‘Filing of Nomination Forms’, candidate’s name, address and other relevant information is retrieved from Voter’s List automatically as default values, if soft copy of the Voter’s List is provided. In such case, system also validates names of the Proposed By and Seconded By as a part of the voter’s list of the ward reducing data entry efforts and minimizing errors.

For multiple nominations, default data is made available from the first nomination form automatically. This default data can be changed as per the new nomination form, if required.

All necessary validation checks such as limiting maximum number of nomination forms by the same candidate for a seat, duplicate names of Proposed By and Seconded By, etc are incorporated into the system reducing manual scrutiny efforts of ROs.

### **b) Scrutiny of nomination papers and withdrawals:**

e-Elect.in accepts and stores information regarding scrutiny results and withdrawals. Accepts name changes required to be printed on Ballot Paper. The system provides all the reports of scrutiny and withdrawal phase, including 'List of contesting candidates'.

### **c) Symbol Allocation:**

e-Elect.in provides guidance on symbol allocation to the ROs making the process of symbols allocation much simpler and interesting.

### **d) Voting:**

e-Elect.in accepts booth-wise voting information and provide reports of the cumulative voting done every 2 hours (as per the defined frequency) with percentage of male / female voted etc.

### **e) Counting of votes and declaration of result:**

The system accepts booth-wise counting information and provides result related reports. e-Elect.in has online dashboard which provides progressive information on counting results. The dashboard provides user-wise personalization providing instant statistics on number of leading, upcoming, won candidates / parties, etc.

At the end of the election programme all reports are provided to the Local Body in electronic (soft copy) format for archival purpose. The data of the Election is maintained by IITS for the period of 6 months.

**Technical Assistance** is provided to offices of ROs for on-the-job training and hand-holding support to the users / assistant staff.

**Help Desk facility** from application support engineers of IITS is available to immediately respond to queries/issues of the users, if any.

## **3.3 DEPLOYMENT MODEL**

**Server Infrastructure:** The e-Elect.in is hosted and maintained by IITS on a dedicated Web Server hosted with co-location facility at a reputed Internet Service Provider. 24 x 7 availability of e-Elect.in is ensured by IITS.

**Availability and Performance:** IITS owns the responsibility keeping the e-Elect.in always up and running with consistent performance (response time).

**Security:** IITS has incorporated appropriate security features in e-Elect.in for safety of the application itself and database. Proper security is implemented at various levels such as Application, Database, Operating System and Network.

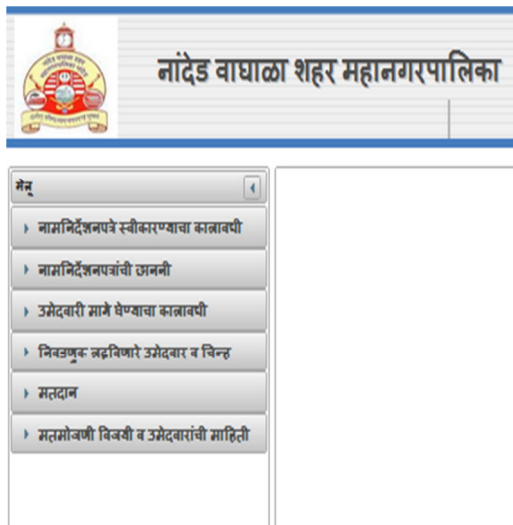
**Backups:** IITS has implemented automated backup procedures to take back-up of database at regular intervals such as daily and weekly.

**Disaster Recovery Plan:** A mirror server is kept ready with online database synchronization and replication to cope up with disaster, if any, at the site of production data center.

Diagrammatic representation of Deployment Model is provided in Appendix “C”.

## 4 EXPERIENCE AT NWCMC

e-Elect.in developed by IITS is implemented at Nanded Waghala City Municipal Corporation (“NWCMC”) Elections, 2012. IITS gained great insights into the needs of ROs, Municipal Corporation and its Commissioner and Deputy Commissioners during this implementation with active interest and co-operation from all the users including ROs and their staff.



Below is a summary of benefits experienced and feedback received during the NWCMC elections 2012.

### 4.1 BENEFITS EXPERIENCED

#### ✓ Higher User satisfaction

- Ease of use - minimal training: Usability aspect is given special attention in e-Elect.in and hence it is easy to use
- Anywhere, anytime - mobility: Since the software is available over internet it is available from anywhere at all times to the ROs as well as NWCMC officials, citizens.
- Quick response to new report requirements:

During the programme different consolidation reports were requested. Turnaround time by IITS was always less than 12 hours.

- Higher confidence on the reports and election results as e-Elect.in is a stable and robust system developed by a professionals having over 20 years of experience in IT industry.
- ✓ **Improved Efficiency, Less Paperwork.**
- ✓ **Improved data accuracy:** Since the Nomination form and other details are stored in a single database it eliminated duplicate data entry efforts, repeat mistakes in various reports.
- ✓ **Improved speed of communication:** e-Elect.in is accessed using Internet, which improves speed of communication between RO offices, NWCMC, SEC etc. with less or no cost.
- ✓ **Visibility of the election process** to the NWCMC officials: helped NWCMC officials to know progress at each RO office, understand the bottlenecks, if any.
- ✓ **Consolidated information** of all Wards was available to Public at the appropriate time. E.g. List of Nominations Received, List of Valid Nominations, List of Invalid Nominations, List of Withdrawn Nominations, List of Contesting Candidates, Allocated Symbols, Voting %, Election Results etc. Online Counting Dashboard was most appreciated by NWCMC officials which resulted in less Police force, less hassles of Candidates, their representatives, citizens and therefore less stress on ROs and Local Body Officials. (Citizens were asked to sit at home and watch counting results on television).
- ✓ **Better ROI to NWCMC**
  - No upfront costs towards software development and deployment infrastructure (server hardware, etc)

- e-Elect.in is developed on SaaS model hence there is no software license cost
  - No install costs as the software is accessed using only the Internet Browser
  - Faster ROI, the returns start from day one
  - Only Operational expense. No Capital expense
- ✓ **No dependence on in-house IT resources** (human / infrastructure) of Municipal Corporation
- ✓ **Transparent, consistent and efficient interface** to SEC, Local Body, Media, Candidates and Citizens from ROs

## 5 FUTURE ROADMAP FOR E-ELECT.IN

---

1. **Registration of Online Nomination Form:** A wizard based menu option will be provided for Registration of Online Nomination Forms for the aspiring Candidates. Options will be provided to the registered Candidates (who will be having user id and password) for acceptance of security deposit through secured payment gateway, recording of biometric signature, acceptance of nomination form in regional language and uploading of scanned copies of supporting documentation. Online access to the candidates will reduce the RO office workload significantly. After the period of Receipt of Nomination Forms, the menu option for Registration will be disabled automatically by the System.
2. A separate module will be provided to register breach of 'code of conduct' during the election programme.
3. Subsequently process of recording and tracking complaints (against defined 'code of conduct') will be automated.

## 6 CONCLUSION

---

Automation of end-to-end Election Programme using e-Elect.in is a true e-Governance experience by all the stakeholders viz Local Body, ROs and their staff, SEC, Candidates, Media representatives and citizens. It has the potential to set a successful example for automation of the government processes. It will profoundly change the way people work and election programmes are executed. The new way of doing things will have great impact on cost, efficiency, accuracy, stakeholder satisfaction, interest and motivation of RO Office staff and more.



## 7 APPENDIX “A”: ABOUT IITS

---

**Infinite IT Solutions Pvt. Ltd. (“IITS”)** is a company with over 20 years of standing in the IT field specializing in the development and implementation of IT systems. IITS has successfully executed a number of major Software development and IT assignments for public and private sector organizations. Its clientele includes Corporations such as Maharashtra State Financial Corporation, SICOM, Western Maharashtra Development Corporation, Haffkine Bio-Pharmaceutical Corporation Ltd., MITCON, Mira Bhaingar Municipal Corporation, Nanded Waghala City Municipal Corporation and MNCs like Dun & Bradstreet Information India Pvt. Ltd., Nishcorp Inc., etc.

Since 1989, IITS has developed over 40 major computer applications using programming languages such as Clipper, C, COBOL, PowerBuilder, Oracle on Operating Systems like DOS, CDOS, Novell, Windows, UNIX, XENIX, Solaris etc. The nature of IT assignments handled includes Requirement Analysis, Evaluation of Vendors in technology and assistance in implementation, Technical Assistance, Facility Management, Data Validation and Identifying revenue leakages, Training, etc.

IITS has proven expertise on the latest and best technologies and databases being currently used in the IT industry. These technologies and databases include **Java, JSP, Servlets, Struts, JSF, JPA, AJAX, SQLJ, JDBC, Hibernate, RMI, XML, Jasper Reports, Oracle Reports, VB, ASP, Oracle, MySQL** and MSSQL. IITS also has experience of configuring and deploying applications on J2EE Application & Web Servers like Glassfish, Oracle Application Server, JBoss, Websphere and Tomcat. IITS has implemented applications on various Operating systems such as Windows, Linux and Sun Solaris in environments like Internet / Intranet, Client-Server / LAN.

Currently IITS is engaged in developing Web Database Applications for local and overseas clients. IITS has also provided training on Web application development to reputed IT Companies, engineering college faculties and students at Andaman and Nicobar, and at Sikkim. The colleges are ISO 9001 - 2000 certified and assisted by World Bank under third technical project.

IITS has a fully-equipped state-of-the-art development and deployment infrastructure at Andheri West, Mumbai.

IITS has considerable IT expertise within its own organization and requisite resources for extending need based support for and in implementation of software applications. IITS has an effective blend of domain experts and software professionals proficient in understanding complex business processes, and providing the best IT solutions without time / cost overruns.

IITS has a resource pool of experienced IT professionals (who are engaged in different areas like application development, database management, networking and training) and committed associates at various cities of Maharashtra. Also IITS has tie-up with NishCorp Inc. USA for providing offshore services and resources.

**Recently, IITS has executed assignments of Automation of Election Programme for Mira Bhaingar and Nanded Waghala City Municipal Corporations. The Software, Technical Assistance and Data Entry Services provided are greatly appreciated by most of the Returning Officers, Officials of the Corporations including the Commissioners.**

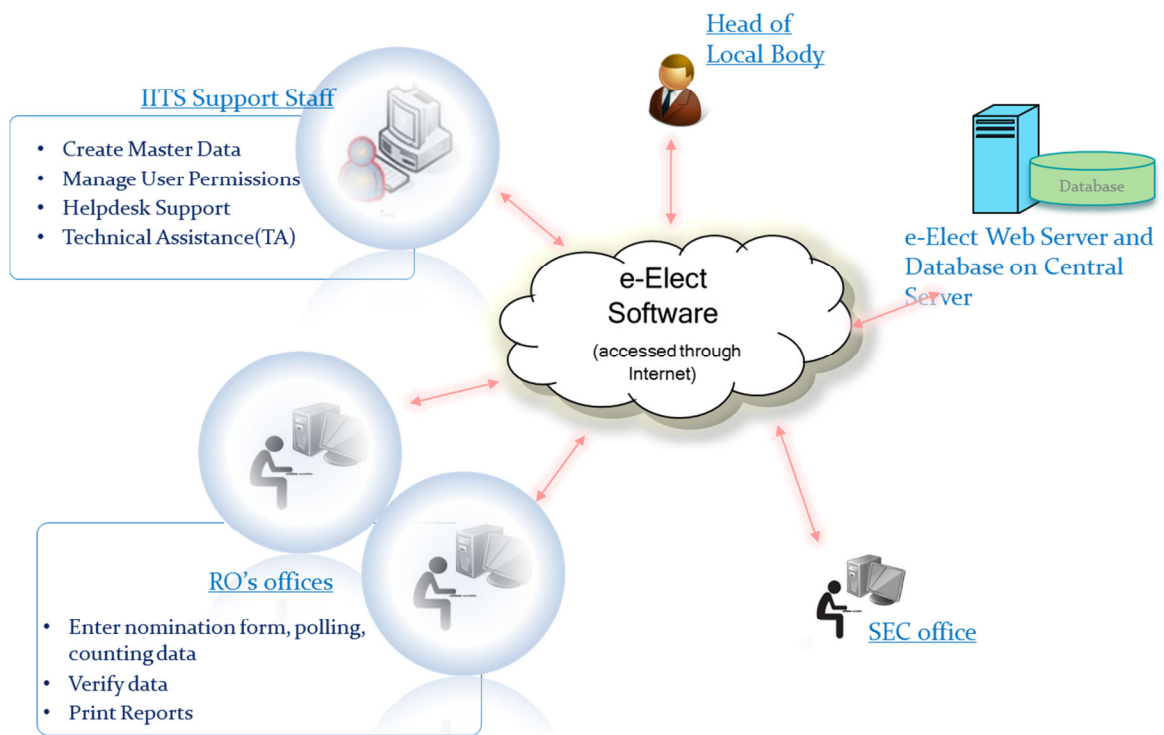
e-elect.in - Process Diagram	
State Election Commission	<pre> graph TD     Start((Start)) --&gt; DefineDate[Define Date of Polling, Adjust Event Dates within Tolerance]     DefineDate --&gt; AutoGenerate[Auto Generate Schedule, Finalize Election Plan]     AutoGenerate --&gt; PublishSchedule[Publish Schedule (Start Event Timer)]     PublishSchedule --&gt; ProvideMasters[Provide Masters, Like Parties, Symbols, Flags, Holidays]     ProvideMasters --&gt; AccessPublish[Access / Publish Consolidated / RO-wise Reports on mahasec.com / e-elect.in]     AccessPublish --&gt; Dashboard[Dashboard / Onscreen Query on mahasec.com / e-elect.in]           </pre>
Local Body	<pre> graph TD     DefineMasters[/Define Masters - Wards, Seats, Ros, Booths, Parties/] --&gt; MakeIT[Make IT Infrastructure Available for all ROs and at HO including Data Entry Operators]     MakeIT --&gt; AccessReports[Access Consolidated / RO-wise Reports]     AccessReports --&gt; PublicAccess[Public Access]           </pre>
Returning Officers (ROs)	<pre> graph TD     Start(( )) --&gt; IsNFR[Is Event N.F. Receipt?]     IsNFR -- yes --&gt; EnterNF[Enter Nomination Forms (N.F.)]     EnterNF --&gt; NFOutputs[Namuna 2 &amp; 3, Prapatra 2, Prapatra 1, Summary Report for Local Body]     IsNFR -- no --&gt; IsWithdrawal{Is Event Withdrawal?}     IsWithdrawal -- yes --&gt; ChangeNF[Change N.F. Status to Accepted or Rejected]     ChangeNF --&gt; ChangeNFOutputs[Prapatra 4, Prapatra 3]     IsWithdrawal -- no --&gt; IsPolling{Is Event Polling?}     IsPolling -- yes --&gt; AcceptBooth[Accept Booth-wise Polling Data]     AcceptBooth --&gt; AcceptBoothOutputs[Vivaranpatra 1, Vivaranpatra 2]     IsPolling -- no --&gt; IsCounting{Is Event Counting?}     IsCounting -- yes --&gt; Stop((Stop))     IsCounting -- no --&gt; AcceptSeat[Accept Seat-wise Candidate-wise Votes]     AcceptSeat --&gt; AcceptSeatOutputs[Prapatra 8 C, Vivaranpatra 3, 4, 6, 7, Input &amp; Output Counting Sheets (Bab 87 &amp; Bab 89)]           </pre>

## 8.1 LIST OF REPORTS PROVIDED IN E-ELECT.IN ARE

Sr.No.	Report Code	Report Name
<b>नामनिर्देशनपत्रे स्वीकारण्याचा कालावधी</b>		
1	Onscreen	नामनिर्देशनपत्रांची यादी
2	नमुना २	नामनिर्देशनपत्राची सूचना (Date-wise and Progressive)
3	प्रपत्र १	नामनिर्देशनपत्र / उमेदवाराची प्रगतशील माहिती (Nomination Form-wise)
4	प्रपत्र २	उमेदवाराची प्रगतशील माहिती (candidate-wise)
5		नामनिर्देशनपत्र / उमेदवाराची प्रगतशील माहिती (Summary)
<b>नामनिर्देशनपत्रांची छाननी</b>		
6	नमुना ३	वैधरित्या नामनिर्देशित उमेदवारांची यादी
7	बाब १९	उमेदवारी अर्ज छाननी मध्ये अवैध ठरलेल्या उमेदवारांची यादी
8	प्रपत्र ३	नामनिर्देशनपत्र छाननीनंतर वैध ठरलेल्या उमेदवारांची संख्या
9	प्रपत्र ४	नामनिर्देशनपत्र नामंजूर केलेल्या उमेदवारांची संख्या
<b>उमेदवारी मागे घेण्याचा कालावधी</b>		
10	नमुना ५	उमेदवारी मागे घेण्यासंबंधीची सूचना
11	प्रपत्र ५	नामनिर्देशनपत्रे मागे घेतलेल्या उमेदवारांची संख्या
12		माघार घेतल्यानंतर वैधरित्या नाम. उमेदवारांची यादी
<b>निवडणुक लढविणारे उमेदवार व चिन्ह</b>		
13	Onscreen	निवडणुक लढविणाऱ्या उमेदवारांची यादी
14	बाब - २०	उमेदवारास मंजूर केलेल्या चिन्हाबाबतचा तक्ता
15	नमुना-६ (बाब-२५)	निवडणुक लढविणाऱ्या उमेदवारांची यादी
16	प्रपत्र - ७:	निवडणुक लढविणाऱ्या उमेदवारांची संख्या
17		मतपत्रिकेवर येणारे नाव व क्रमांक (यादी)
<b>मतदान</b>		
18	विवरणपत्र १	मतदानाची टक्केवारी (every 2 hrs)
19	विवरणपत्र २	झालेले मतदान व त्यातील वैध / अवैध मतांची माहिती
<b>मतमोजणी व विजयी उमेदवारांची माहिती</b>		
20	व्ही. एम. ४/बाब ८७	मतमोजणी - (व्ही. एम. ४ / बाब ८७ / Input Data Sheet)
21	Onscreen	जागा व मतदान केंद्रासाठी मिळालेली मते
22	प्रपत्र ८क	निर्वाचित उमेदवारांचा तपशील
23	विवरणपत्र ४	विजयी उमेदवारांची माहिती
24	विवरणपत्र ६	मतमोजणीचा अहवाल
25	विवरणपत्र ७	पक्षांना पडलेली मते
26	बाब ८९	मतमोजणी - जागा व मतदान केंद्रासाठी मिळालेली मते (Output Sheet)

## 9 APPENDIX “C”: DIAGRAMMATIC REPRESENTATION OF E-ELECT.IN IMPLEMENTATION:

---



## 10 APPENDIX “D”: FEEDBACK ON AUTOMATION OF ELECTION PROGRAMME, NANDED ELECTION 2012

---

**SMS Received:**

From: +919422935130 Sent: 16 October 2012 12:47 To: +919820121654 Cc: Dear Milindji, Thanks for your kind support. You & your Team has done a very good job. With Regards Ahirrao Prakash	From: +919422171245 Sent: 16 October 2012 8:53 To: +919820121654 Cc: We express our sincere thanks for all the help being extended by you in our mission "MAT MANTHAN"
SMS From a Returning Officer, NWCMC, Nanded Election 2012	SMS From Media In-charge

**Feedback of other ROs and their assistants / operators is also available with IITS**