# Test plan

## Test objectives:

1. To ensure whether the system distinguishes between options available for voter and election administrator.
2. To ensure that the system allows only authorized voter (who enters his/her valid unique voter id) to cast their votes.
3. To ensure that the system allows a voter to cast his/her vote only once.
4. To ensure that the system allows only the user entering valid election admin password to view the results of election.
5. To ensure that the system displays correct results (total number of votes obtained by each candidate and the name of the leading candidate).

## Testing methods:

One or both of the following methods can be used for testing:

1. Manual testing by executing mentioned test cases.
2. By using automatic testing frameworks such as unity.

## Testing strategy:

1. Unit testing: All the modules or functions are testing for specific requirements. If there are any issues then they must be resolved. This also involves regression testing.
2. Integration and system testing: The entire application is tested for the required functionality after unit testing is successful.
3. Acceptance testing: Typically carried out in real time or customer environments.

## Assumptions:

1. It is assumed that each voter is issued with unique four digits voter id.
2. It is assumed that the election administrator has unique four digits password (1723).

## Test deliverables:

Results depicting the details of test cases which have either failed or passed. This helps in identification of bugs and errors which can be fixed.

## Exit criteria for testing:

Testing is stopped only when all the test cases pass. If any of the test cases fail, then the corresponding bug has to be fixed and again tested. By manual testing, all of the below mentioned test cases have passed.

## Test scenarios:

1. Ts1: Check if the system provides two options, one for voter and other for admin.
2. Ts2: Check functionality of voter.
3. Ts3: Check if the voter is allowed to vote only once or not.
4. Ts4: Check voting function
5. Ts5: Check functionality of admin
6. Ts6: Check the option available for admin to view the number of votes obtained by each candidate
7. Ts7: Check the option available for admin to view the name of leading candidate

## Test case table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TSN | TCN | Test case | Test data | Expected results | Actual results | P/F |
| Ts1 | Tc1 | Enter option for voter | enter option 1 | Voter id of voter is asked | Same as expected result | P |
| Ts1 | Tc2 | Enter option for admin | Enter option 2 | Password of admin is asked | Same as expected result | P |
| Ts1 | Tc3 | Enter option to exit from program | Enter option 3 | Exit from main menu | Same as expected result | P |
| Ts1 | Tc4 | Enter invalid option (1 digit number) | Enter invalid option  Ex: 5 | System displays “invalid option” | Same as expected result | P |
| Ts2 | Tc5 | Enter valid 4 digits voter id | Enter valid 4 digits  voter id  ex: 1234 | List of candidates is displayed | Same as expected result | P |
| Ts2 | Tc6 | Enter invalid 4 digits voter id | Enter invalid 4  digits voter id ex: 1763 | System displays “invalid or duplicate voter id” | Same as expected result | P |
| Ts3 | Tc7 | Enter duplicate (used) voter id | Enter already used voter id ex: 1234 | System displays “invalid or duplicate voter id” | Same as expected result | P |
| Ts3 | Tc8 | Enter 1 digit serial no. of any candidates | Enter either 1/2/3/4/5 | Message “thank you for voting” is displayed | Same as expected result | P |
| Ts3 | Tc9 | Enter invalid 1 digit serial no. | Enter 1 digit number other than 1 to 5 | Message “invalid choice” is displayed and main menu is displayed. | Same as expected result | P |
| Ts4 | Tc10 | Enter valid password of admin | Enter 1723 | A list of options for admin is displayed | Same as expected result | P |
| Ts4 | Tc11 | Enter invalid password | Enter 4 digits incorrect password ex: 1521 | Message “invalid password” is displayed | Same as expected result | P |
| Ts5 | Tc12 | Enter option 1 to view the number of votes obtained by each candidate | Enter option 1 to view the number of votes obtained by each candidate | Number of votes obtained by each candidate is displayed | Same as expected result | P |
| Ts6 | Tc12 | Enter option 2 to view the name of leading candidate | Enter option 2 to view the name of leading candidate | The name of the candidate with highest votes is displayed, if there is a tie a message “tie” is displayed | Same as expected result | P |

Table 1. Test cases table

## Abbreviations:

1. TSN: test scenario number.
2. TCN: test case number.
3. P/F: pass or fail.