

Electronic Voting Machine



Q1. What is an Electronic Voting machine? In what way its functioning is different from the conventional system of voting?

Ans. Electronic Voting Machine (EVM) is an electronic device for recording votes. An Electronic Voting Machine consists of two Units – a Control Unit and a Balloting Unit – joined by a five-meter cable. The Control Unit is placed with the Presiding Officer or a Polling Officer and the Balloting Unit is placed inside the voting compartment. Instead of issuing a ballot paper, the Polling Officer in-charge of the Control Unit will release a ballot by pressing the Ballot Button on the Control Unit. This will enable the voter to cast his vote by pressing the blue button on the Balloting Unit against the candidate and symbol of his choice.

Q2. When was the EVM first introduced in elections?

Ans. EVMs were first used in 70-Parur Assembly Constituency of Kerala in the year 1982.

Q3. How can EVMs be used in areas where there is no electricity?

Ans. EVMs do not require electricity. EVMs run on an ordinary battery assembled by Bharat Electronics Limited/Electronics Corporation of India Limited.

Q4. What is the maximum number of votes which can be cast in EVMs?

Ans. An EVM being used by ECI can record a maximum of 2,000 votes.

Q5. What is the maximum number of candidates which EVMs can cater to?

Ans. In case of M2 EVMs (2006-10), EVMs can cater to a maximum of 64 candidates including NOTA. There is provision for 16 candidates in a Balloting Unit. If the total number of candidates exceeds 16, more balloting units can be attached (one per 16 candidates) up to a maximum of 64 candidates by connecting 4 Balloting Units. However, in case of M3 EVMs (Post 2013), EVMs can cater to a maximum of 384 candidates including NOTA by connecting 24 Balloting Units.

Q6. What will happen if the EVM in a particular polling station goes out of order?

Ans. If an EVM of a particular polling station goes out of order, the same is replaced with a new one. The votes recorded until the stage when the EVM went out of order remains safe in the memory of the Control Unit and it is perfectly fine to proceed with the polling after replacing the EVM with new EVM and there is no need to start the poll from the beginning. On counting day, votes recorded in both Control Units are counted to give the aggregate result of that polling station.

Q7. Who has designed the EVMs?

Ans. The EVMs have been devised and designed by the Technical Experts Committee (TEC) of the Election Commission in collaboration with two Public Sector undertakings viz., Bharat Electronics Ltd., Bangalore and Electronic Corporation of India Ltd., Hyderabad. The EVMs are manufactured by the above two undertakings.

Q8. What is Voter Verifiable Paper Audit Trail (VVPAT)?

Ans. Voter Verifiable Paper Audit Trail (VVPAT) is an independent system attached with the Electronic Voting Machines that allows the voters to verify that their votes are cast as intended. When a vote is cast, a slip is printed containing the serial number, name and symbol of the candidate and remains exposed through a transparent window for 7 seconds. Thereafter, this printed slip automatically gets cut and falls in the sealed drop box of the VVPAT.

Q9. Whether VVPAT runs on electricity?

Ans. No. VVPAT runs on a power pack Battery.

Q10. Where were VVPATs used for first time in India?

Ans. VVPATs with EVMs were used for first time in a bye-election from 51-Noksen (ST) Assembly Constituency of Nagaland.

Q11. Who conducts the First Level Checking of EVMs & VVPATs?

Ans. Only authorized engineers of the manufacturers, namely Bharat Electronics Limited (BEL) and Electronics Corporation of India Limited (ECIL), conduct the First Level Checking (FLC) of EVMs and VVPATs under control of District Election Officer and direct supervision of Dy. DEO in the presence of representative of Political Parties under videography.

Q12. What is the cost of the machines? Is it not too expensive to use EVMs?

Ans. The Cost of M2 EVMs (manufactured between 2006-10) was Rs.8670/- per EVM (Balloting Unit and Control Unit). The cost of M3 EVMs has been tentatively fixed at about Rs. 17,000 per unit. Even though the initial investment seems somewhat heavy, this is more than set off by the savings in the matter of printing of ballot papers in lakhs for every election, their transportation, storage etc., and the substantial reduction in the counting staff and the remuneration paid to them.

Q13. In our country a sizeable section of the population is illiterate. Will it not cause problems for the illiterate voters?

Ans. Voting by EVMs is much simpler compared to the conventional system, where one has to put the voting mark on or near the symbol of the candidate of his choice on the Ballot Paper, fold it first vertically and then horizontally and thereafter put it into the ballot box. In EVMs, the voter has to simply press the blue button on Ballot Unit against the candidate and symbol of his choice and the vote is recorded.

Q14. Is it possible to use EVMs for simultaneous elections for Parliament and State Legislative Assembly?

Ans. Yes. However, during simultaneous elections 2 separate sets of EVMs are required, one for the Parliamentary Constituency and the other for the Legislative Assembly Constituency.

Q15. What are the advantages in using EVMs?

Ans. Advantage of using EVMs:

- It completely eliminates the possibility of casting 'Invalid Votes', which during the paper ballot regime was noticed in large numbers during each election. In fact, in many cases, the number of 'Invalid Votes' exceeded the winning margin, leading to numerous complaints and litigations. Thus EVMs have enabled a more authentic and accurate reflection of the choice of the electorate.
- With the use of EVMs, printing of millions of ballot papers for every election can be dispensed with, as only one ballot paper is required for fixing on the Balloting Unit at each polling station instead of one ballot paper for each individual elector. This results in huge savings by way of cost of paper, printing, transportation, storage and distribution.
- The counting process is very quick and the result can be declared within 3 to 5 hours as compared to 30-40 hours, on an average, under the conventional Ballot paper system.

Q16. With ballot boxes counting is done after mixing the ballot papers. Is it possible to adopt this system when EVMs are used?

Ans. Yes, through the use of a device called 'Totalizer' which can accommodate upto 14 Control Units at a time to aggregate votes without revealing the candidate-wise count of individual EVM used at a particular polling station. However, totalizers are not in use at present as its technical aspects and other related issues are under examination and it is also the subject of a court case.

Q17. How long does the Control Unit store the result in its memory?

Ans. The Control Unit can store the result in its memory until the data is deleted or cleared.

Q18. Wherever an election petition is filed, the result of the election is subject to the final outcome. The courts, in appropriate cases, may order a recount of votes. Whether EVMs can be stored for such a long time and whether the result can be taken in the presence of the officers authorised by Courts?

Ans. The lifespan of an EVM is 15 years & even more and votes recorded in the Control Unit can be stored upto its lifetime until it is cleared. If the Court orders a recount, the Control Unit can be reactivated by fixing the battery and it will display the result stored in its memory.

Q19. Is it possible to vote more than once by pressing the button again and again?

Ans. No. As soon as a particular button on the Balloting Unit is pressed, the vote is recorded for that particular candidate and the machine gets locked. Even if one presses that button further or any other button, no further vote will be recorded. This way the EVMs ensure the principle of "one man, one vote". The next vote is enabled only when the Presiding Officer/Polling Officer in-charge of the Control Unit releases the Ballot by pressing the Ballot Button. This is a distinct advantage over the ballot paper system.

Q20. How can a voter be sure that the EVM is working and his vote has been recorded?

Ans. As soon as the voter presses the 'blue button' against the candidate and symbol of his choice, the lamp against symbol of that particular candidate glows red and a long beep sound is heard. Thus, there is both audio and visual indications for the voter to be assured that his vote has been recorded correctly. In addition, VVPAT provides an additional visual verification in the form of paper slip to the voter so he can ensure that his vote has been correctly recorded for the candidate of his choice.

Q21. Is it true that sometimes because of short-circuitry or other reason, a voter is likely to get an electric shock while pressing the 'blue button'?

Ans. No. EVMs work on a battery and there is absolutely no chance of any voter getting an electric shock at the time of pressing the 'blue button' or at any time of handling the EVM.

Q22. Is it possible to program the EVMs in such a way that initially, say upto 100 votes, votes will be recorded exactly in the same way as the 'blue buttons' are pressed, but thereafter, votes will be recorded only in favor of one particular candidate irrespective of whether the 'blue button' against that candidate or any other candidate is pressed?

Ans. The microchip used in EVMs is a one-time programmable/ masked chip, which can neither be read nor overwritten. Hence, the program used in the EVMs cannot be reprogrammed in a particular manner. Furthermore, the EVMs are stand-alone machines which are not accessible remotely from any network are connected with any external devices and there is no operating system used in these machines. There is, therefore, absolutely no chance of programming the EVMs in a particular way to select any particular candidate or political party.

Q23. Will it not be difficult to transport the EVMs to the polling stations?

Ans. No. On the contrary, it is easier to transport the EVMs, as compared to ballot boxes as EVMs are lighter, portable and come with custom-made polypropylene carrying cases for ease of portage/transport.

Q24. In many areas of the country, there is no electricity connection and even in those places where there is electricity connection, power supply is erratic. In this scenario will it not create problem in storing the machines without air conditioning?

Ans. There is no need to air condition the room/hall where EVMs are stored. What is required is only to keep the room/hall free from dust dampness and rodents as in the case of ballot boxes.

Q25. In the conventional system, it will be possible to know the total number of votes polled at any particular point of time. In EVMs 'Result' portion is sealed and will be opened only at the time of counting. How can the total number of votes polled be known on the date of poll?

Ans. In addition to the 'Result' button, there is a 'Total' button on Control Unit of EVMs. By pressing this button the total number of votes polled upto the time of pressing the button will be displayed without indicating the candidate-wise result.

Q26. The Balloting Unit has provision for 16 candidates. In a constituency, there are only 10 candidates. The voter may press any of the buttons from 11 to 16. Will these votes not be wasted?

Ans. No. If there are only 10 candidates including NOTA in a constituency, the 'Candidate' buttons provided at Sl. No. 11 to 16 will be masked at the time of preparation of EVM by Returning Officer. Therefore, there is no question of any voter pressing any of the buttons for candidates 11 to 16.

Q27. Ballot boxes are engraved so as to avoid any scope for complaint of replacement of these boxes. Is there any system of numbering EVMs?

Ans. Yes. Each Balloting Unit and Control Unit has a unique ID Number, which is engraved on each unit. The list containing ID number of EVM (Balloting Unit & Control Unit) to be used in a particular polling station is prepared and provided to the contesting candidates/their agents.

Q28. In the conventional system, before the commencement of poll, the Presiding Officer shows to the polling agents present that the ballot box to be used in the polling station is empty. Is there any such provision to satisfy the polling agents that there are no hidden votes already recorded in the EVMs?

Ans. Yes. Before the commencement of poll, the Presiding Officer demonstrates to the polling agents present that there are no hidden votes already recorded in the machine by pressing the result button. Thereafter, he conducts a Mock poll with atleast 50 votes in the presence of the polling agents and tallied with the electronic result stored in the CU to fully satisfy the polling agents to satisfy them that the result shown is strictly according to the choice recorded by them. Thereafter, the Presiding Officer will press the clear button to clear the result of the mock poll before commencing the actual poll. He then again shows to polling agents, by pressing 'Total' button that it shows '0'. Then he seals the Control Unit before starting actual poll in the presence of polling agents. Now, with 100% VVPAT use at every polling booth, after the Mock Poll, the VVPAT paper slips are also counted.

Q29. How can one rule out the possibility of recording further votes at any time after close of the poll and before the commencement of counting by interested parties?

Ans. After completion of poll i.e. when the last voter has voted, the Officer in-charge of the Control Unit/Presiding Officer presses the 'Close' Button. Thereafter, the EVM does not accept any vote. After the close of poll, the Control Unit is switched off and thereafter the

Balloting Unit is disconnected from the Control Unit and kept separately in the respective carrying cases and sealed. Further, the Presiding officer has to hand over to each polling agent a copy of the account of votes recorded. At the time of counting of votes, the total votes recorded in a particular control unit is tallied with this account and if there is any discrepancy, this can be pointed out by the Counting Agents.

Q30. Whether there is any provision to complaint if the paper slip generated by the printer has shown the name or symbol of a candidate other than the one he voted for?

Ans. Yes, if an elector after having recorded his vote alleges that the paper slip generated by the printer has shown the name or symbol of a candidate other than the one he voted for, as per the provisions of Rule 49MA of Conduct of Elections Rules, 1961, the presiding officer shall obtain a written declaration from the elector as to the allegation, after warning the elector about the consequence of making a false declaration.

If the elector gives the written declaration referred to in sub-rule (1) of Rule 49MA, the presiding officer shall permit the elector to record a test vote in the voting machine in his presence and in the presence of the candidates or polling agents who may be present in the polling station, and observe the paper slip generated by the printer.

If the allegation is found true, the presiding officer shall report the facts immediately to the returning officer, stop further recording of votes in that voting machine and act as per the direction that may be given by the Returning Officer.

If, however, the allegation is found to be false and the paper slip so generated under sub-rule (1) matches with the test vote recorded by the elector under sub-rule (2), then, the presiding officer shall-

- make a remark to that effect against the second entry relating to that elector in Form 17A mentioning the serial number and name of the candidate for whom such test vote has been recorded;
- obtain the signature or thumb impression of that elector against such remarks; and
- make necessary entries regarding such test vote in item 5 in Part I of Form 17C."

Q31. Who loads the Serial numbers, names of candidates and symbols allotted to contesting candidates in VVPAT unit?

Ans. Serial numbers, names of candidates and symbols allotted to them are loaded in VVPAT unit with the help of engineers of the manufacturer i.e. ECIL/BEL.

Q32. Whether test printout of the Serial numbers, names of candidates and symbols loaded in VVPAT is required?

Ans. Yes. A test printout of the Serial numbers, names of candidates and symbols loaded in VVPAT is required to check with the ballot paper placed on Ballot Unit. Thereafter, one vote to each candidate will be given to check that the VVPAT is printing the paper slips correctly in respect of all the candidates.

Q33. Whether additional Polling Official is required in each polling station to handle the VVPAT unit?

Ans. Yes. Additional polling official is required in each polling station where M2 VVPATs are deployed with the EVMs. The duty of this polling official will be to watch

the VVPAT Status Display Unit (VSDU), kept on the presiding officer's table, continuously during the entire poll process.

However, in case of M3 VVPAT no additional polling official is required to handle the VVPAT.

Q34. Whether changing of paper roll is allowed at polling stations?

Ans. Changing of paper roll is strictly prohibited at polling stations.

Q35. Whether counting of printing paper slips of VVPAT is compulsory on the counting day?

Ans. Counting of printed paper slips of VVPAT is done only in the following cases:

- Mandatory verification of printed VVPAT paper slips of 01 randomly selected polling station of (a) Assembly Constituency in case of election to State Legislative Assembly and (b) each Assembly Segment in case of election to the House of the People.
- In case of no display of result from the Control Unit, the printed paper slips of the respective VVPAT is counted.
- If any candidate, or in his absence, his election agent or any of his counting agents make a written request to count the printed paper slips of the VVPAT in respect of any polling station or polling stations under Rule 56 D of the Conduct of Elections Rules 1961, the Returning Officer taking into consideration various factors decides and issue written orders, whether to count or not to count the printed paper slips of the VVPAT of that particular polling station(s).

Q36. After announcement of the result, whether the printed paper slips of VVPAT (counted or not), the printed paper slips are required to be taken out of the drop box of the VVPAT Printer unit?

Ans. No. The VVPATs are stored along with the EVMs in a secure strong room till the completion of the Election Petition period.

Q37. Where can I read further about EVMs and VVPATs?

Ans. For further reading you may refer to:

- Manual of EVMs available at <https://eci.gov.in/files/file/9230-manual-on-electronic-voting-machine-and-vvpat/>
- Status paper on EVM available at <https://eci.gov.in/files/file/8756-status-paper-on-evm-edition-3/>

Q38. Whether it is possible to know beforehand about the deployment of EVMs in a particular polling station?

Ans. No, it must be noted here that the arrangement of names of candidates in the ballot paper, and hence the Ballot Unit, is in alphabetical order, first for the National & State Recognised Political Parties, followed by other State Registered Parties, and then by Independents. Thus, the sequence in which the candidates appear on the Ballot Unit is contingent on the names of the candidates and their party affiliation and cannot be ascertained beforehand.

EVMs are allocated to polling station by two stages of randomization process through EVM Tracking Software developed by the Commission. After first level checking of EVMs, first randomization of EVMs is done at the District Election Officer level to allocate them Assembly Constituency-wise in the presence of the representative of political parties. Thereafter, before commissioning of EVMs, second randomisation of EVMs is done at the Returning Officer level to allocate them Polling Station-wise in the presence of candidates/their agents.

Q39. Is it true that many petition have been filed against EVMs in courts? What is the outcome?

Ans. Yes.

Since 2001, the issue of possible tampering of EVM has been raised before various High Courts. Some of these are mentioned below:

- Madras High Court-2001
- Kerala High Court-2002
- Delhi High Court-2004
- Karnataka High Court- 2004
- Bombay High Court (Nagpur Bench)-2004
- Uttarakhand High Court - 2017
- Supreme Court of India - 2017

After detailed analysis of the various aspects of the technological security and administrative safeguards around the use of EVMs, the credibility, reliability and robustness of the EVMs has been validated by the various High Courts in all the cases. In some of these cases, the Hon'ble Supreme Court has also dismissed appeals filed by some petitioners against High Court orders, which were in favour of the EVMs. For details, refer Status paper on EVM available at <https://eci.gov.in/files/file/8756-status-paper-on-evm-edition-3/>