

**Total marks: 23**

**Client: 8 marks**

- Basic code for socket, connect (2 marks)
- Handling connection close before anything is received (1 mark)
- Receiving and displaying the candidates' names correctly (2 marks)
- Sending the user's vote to the server (1 mark)
- Receiving and printing the server' response (1 mark)
- Exiting if connection closed at any point (1 mark)

**Server: 15 marks**

- Basic socket, bind, accept code (2 marks)
- Creating proper data structures for storing candidates' names and votes and reading names (2 marks)
- Creating threads for each client (1 mark)
- Main thread operation
  - Checking for IP address, port of client exists or not in vote table (2 marks)
  - Sending names to client in proper format (3 marks)
  - Timing out if no vote is received (1 mark)
  - Check if vote is valid or not (1 mark)
  - Storing the client vote (1 mark)
  - Printing client vote on screen in proper format (1 mark)
  - Sending success string and closing connection (1 mark)
- Checker Thread Operation (**1 mark, Extra Credit**)
- 2 marks deducted if no mutual exclusion done on accessing shared tables