Automation in clinical microbiology has significantly transformed laboratory processes, increasing efficiency, accuracy, and throughput.Overall, automation in clinical microbiology enhances laboratory efficiency, reduces human error, and accelerates the diagnostic process, which is essential in today's fast-paced healthcare environment.By providing rapid and accurate identification, it aids clinicians in selecting appropriate antimicrobial therapies, ultimately improving patient outcomes.Molecular Diagnostic Systems: Devices like the GeneXpert utilize PCR (Polymerase Chain Reaction) technology for rapid detection of pathogens.Automated Identification Systems: Instruments such as the VITEK 2 system automate the process of identifying bacteria and yeast from culture isolates.These systems automate the extraction of nucleic acids from samples and perform real-time PCR to identify specific genetic material .associated with various microorganisms.2.3