

3. Server-Side Scripting (PHP)

SOP 1 : Write a PHP program to check if a person is eligible to vote or not. The program should include the following-

- Minimum age required for vote is 18.
- Use PHP functions.
- Use Decision making statement.

SOP 2 : Write a PHP function to count the total number of vowels (a,e,i,o,u) from the string. Accept a string by using HTML form.

SOP 3 : Write a PHP program to perform the following operations on an associative array.

- Display elements of an array along with their keys.
- Display the size of an array.
- Delete an element from an array from the given index.

SOP 4 : Write a PHP program to save marks of English, Hindi, Marathi, Maths and Information Technology in an array. Display marks of individual subject along with total marks and percentage.

SOP 5 : Write a PHP program to save marks of English, Hindi, Marathi, Maths and information technology in an array for 5 students and display totals marks and percentage of each students using 'foreach'.

SOP 6 : Write a program using PHP to calculate Electricity bill by accepting the limits.

- For first 100 units - Rs. 4
- For next 100 units - Rs. 5
- For next all units - Rs. 6

SOP 7 : Write a PHP Program to insert a roll number and student name in a database (use postgresql data to create database). Accept roll number and name from the user.





Career Opportunities

Cloud Computing Engineers

Basic Requirements :

Cloud engineers typically have at least a bachelor's degree in **computer science** or information technology. Those in the field often have years of software development experience, working with a variety of programming languages such as Java, Angular JS, C++, and Python.

Cloud computing engineers define, design, build, and maintain systems and solutions leveraging systems and infrastructure managed by cloud providers such as Amazon Web Services (AWS) and Microsoft Azure. Following are some of job roles in the cloud computing domain.

- Cloud Architect
- Cloud Consultant
- Cloud Product and Project Manager
- Cloud Services Developer
- Cloud Software and Network Engineer
- Cloud System Administrator
- Cloud System Engineer

Computer Network Specialists

Basic Requirements :

Computer network specialists and analysts define, design, build, and maintain a variety of data communication networks and systems. They typically have a bachelor's degree in computer

science or a related field. Some also have a master's degree in business administration (MBA), with a focus on information systems. Network related jobs and projects. The job profiles are as-

- Computer and Information Research Scientist
- Computer and Information Systems Manager
- Computer Network Architect
- Computer Systems Analyst
- Computer Systems Manager
- IT Analyst
- IT Coordinator
- Network Administrator
- Network Architect
- Network and Computer Systems Administrator
- Network Engineer
- Network Systems Administrator
- Senior Network Architect
- Senior Network Engineer
- Senior Network System Administrator
- Telecommunications Specialist

Computer Support Specialist

Basic Requirements :

The computer user support specialist must be knowledgeable about the functioning of a computer system. Some of the employers appoint the technicians

on the basis of an associate's degree or postsecondary classes, while others prefer the applicants to have a bachelor degree.

Computer support specialists and network administrators help computer users and organizations. Some of these workers support computer networks by testing and evaluating network systems and ensuring that the day-to-day operations work. Others provide customer service by helping people with their computer problems. Some require a bachelor's degree, while others need an associate degree or post-secondary classes. They work as-

- Customer Support Administrator
- Customer Support Specialist
- Desktop Support Manager
- Desktop Support Specialist
- Help Desk Specialist
- Help Desk Technician
- IT Support Manager
- IT Support Specialist
- IT Systems Administrator
- Senior Support Specialist
- Senior System Administrator
- Support Specialist
- Systems Administrator
- Technical Specialist
- Technical Support Engineer
- Technical Support Specialist

Database Administrator

Basic Requirements :

Many employers prefer database

administrators with at least a bachelor's degree in computer science or a related field. In some cases, a master's degree is required for higher-level positions. A bachelor's degree program is a 4-year program and is a prerequisite to a 2-year master's degree program.

Database administrators help store and organize data or companies and/or customers. They protect the data from unauthorized users. Some work for companies that provide computer design services. Others work for organizations with large database systems, such as educational institutions, financial firms and more. They can be employed as-

- Data Center Support Specialist
- Data Quality Manager
- Database Administrator
- Senior Database Administrator

Information Technology Leadership

Basic Requirements :

Obtain a bachelor's degree in computer science or information technology. Develop IT and leadership experience in a variety of IT roles, from entry-level support positions to IT manager. Most IT director positions require 10 years of experience. Earn your master's degree.

Leadership in IT draws from candidates with strong technology backgrounds and superior management skills. They have experience in creating and implementing policies and systems to meet IT objectives, and the ability to budget the time and funds necessary.

- Chief Information Officer (CIO)

- Chief Technology Officer (CTO)
- Director of Technology
- IT Director
- IT Manager
- Management Information Systems Director
- Technical Operations Officer

Information Security Specialist

Basic Requirements :

Hiring managers for IT security specialist positions generally require at least an undergraduate degree (associate or bachelor) in information security, computer information systems, network security, computer science or a related field of study.

The increased incidence of security breaches and the associated danger of identity theft has enhanced the importance of protecting data on commercial and governmental sites. Information securities analysts help defend an organization's computer network and computer systems. The job roles offered to them are-

- Information Security
- Security Specialist
- Senior Security Specialist

Software/Application Developer

Basic Requirements :

Most computer software development jobs require bachelor's degrees in computer science or software engineering. These programs have significant math requirements that include a sequence in calculus, differential equations, and

linear algebra. A sequence in physics is also required.

Software developers design, run, and test various computer programs and applications. Application Developers create new applications and code solutions. They usually have a bachelor's degree in computer science or a related field. They also have strong programming skills, so can be employed as-

- Application Developer
- Applications Engineer
- Associate Developer
- Computer Programmer
- Developer
- Java Developer
- Junior Software Engineer
- .NET Developer
- Programmer
- Programmer Analyst
- Senior Applications Engineer
- Senior Programmer
- Senior Programmer Analyst
- Senior Software Engineer
- Senior System Architect
- Senior System Designer
- Senior Systems Software Engineer
- Software Architect
- Software Developer
- Software Engineer
- Software Quality Assurance Analyst
- System Architect

- Systems Software Engineer
- Mobile Application Developer

Web Developer

Basic Requirements :

Many employers prefer prospective Web developers to hold a bachelor's degree in computer science or a related field. Coursework often includes programming, database management, mathematics, Web design and networking.

Web developers design, create, and modify websites. They are responsible for maintaining a user-friendly, stable website that offers the necessary

functionality for their client's needs. Some jobs require a bachelor's degree, while others need an associate degree, including classes in HTML, JavaScript, or SQL. This education can help to get employment as-

- Front End Developer
- Senior Web Administrator
- Senior Web Developer
- Web Administrator
- Web Developer
- Webmaster
- UX Designer

Professional certificate courses like RHCE, ORACLE, software testing etc. can be done to enhance the career opportunities.