SKILL ORIENTED PRACTICALS (SOP)

Note :

Students should file minimum 12 skill sets from the SOP's as follows-

- Advanced HTML5   - Any 05
- Basics of Audio Editing   - Any 04
- Basics of Video Editing   - Any 02
- Open street Map   - Any 01

1. Advanced HTML5

SOP 1 : **Creation of website using HTML5**

Create a website using HTML5 and CSS using any 4 CSS properties. Write a code for 2 separate pages having different file name such first page as Index. html, second page as page2.html as form.html. Use any theme such as college profile or company profile etc. Every page must contain proper Meta information and design web page as follows-

1) The index page must contain a heading which is highest among other text on pages and must be at centre of the page. There must be a paragraph which introduces general information about the theme chosen. It must have at least 3 physical style tags and one image with alternate text. This page must be connected to other page with proper navigational links.

2) The 2nd page must contain the feedback or enrolment form related with theme chosen with feature of HTML5. The form must contain text element and email address of the company or person. Include the submit button.

SOP 2 : **Create a webpage using HTML and CSS code to design a webpage as the layout displayed below.**

The top section will display the heading , 'Tourist places' in header. The section on the left has list of cities. The right hand side display tourist places in any one of the city .

Use Inline style sheet in the top section to display background color for the text 'Tourist places'. Use internal stylesheet for the left and right section with background color and font styles.

Tourist cities	
City 1. Pune 2. Banglore 3. Hyderabad 4. Delhi	Tourist places in Pune • Shaniwarwada • Kelkar Museum • Sinhgad fort

SOP 3 : **Create a website using HTML and CSS code to design a webpages as follows -**

The first webpage will accept the name of the traveller, date of travel, telephone number. It also has a submit button as an image .

The second webpage has information about the name of transporter, time, seat no and destination displayed one below the other in the form of unordered list as
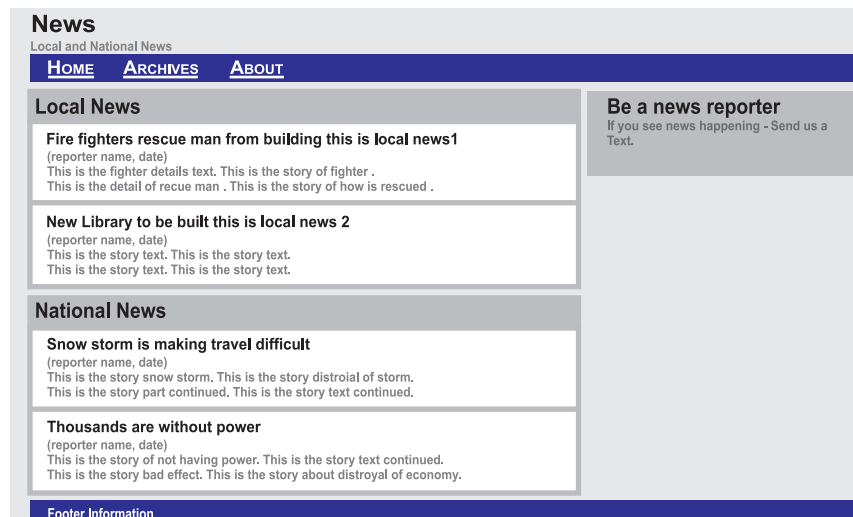Name of transporter – Air Asia
Time - 09:30 am
Seat no – B39
Destination - Delhi
Both pages should be interlinked. Create external stylesheet with relevant tags.

SOP 4 : **Creation of website using HTML5 and CSS.**

Create a webpage as given layout use <nav>,<header>,<footer>,<aside>,< article> with CSS.

SOP 5 : **Use of Audio on web pages using HTML5.**

Create a webpage named audio.html to set an audio file in webpage with controls such that it uses HTML5 elements. The audio file must play as soon as the webpage loads in browser and it will start over again, every time when it is completed.

Create another webpage named audio1.html which provides multiple source file formats for the same audio file that plays a sound with controls. The code must incorporate the list of sound files formats (like wav, MP3 or ogg etc).

SOP 6 : **Use of video on webpages using HTML5.**

Create a webpage named video.HTML to display a video file on webpage and plays automatically. The dimension of video area should be 150 * 150 pixels.

Create another webpage which provide multiple source file formats for the same video file that plays a video with controls. The dimension of video area should be 300* 300 pixels. The code must incorporate the list of video files formats (like webM, MP4 or ogg etc).

SOP 7 : **Navigation on an image using Client side image Mapping in web page using HTML5.**

➢ Create a webpage named imagemap. html with an inserted image having jpeg, png or gif extension. Create 3 different shapes (like rectangle, circle and polygon) which do not overlap. Note down the co-ordinates making use of Ms-Paint/GIMP/IrfanView/Pinta. Each shape should be mapped or navigate with a different URL, one of the clickable area should navigate to a local webpage.

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2. Basics of Audio editing (Audacity)

SOP 1 : **Recording environmental sounds.**

You are supposed to record the environmental sounds using an audio recorder. You can record at least 10 such sounds example. Scenarios are given below, you can choose to record anything from given list below.

➢ Children's playing in the playground.

➢ A busy market.

➢ Bus stop.

➢ Railway station.

➢ After performance applause.

➢ Typing sound from a keyboard

➢ Animals sound eg. dog barking, cat meowing etc.

Can you explain where all such sounds will be used ?

SOP 2 : **Removing the noise from the sound clip.**

Record the audio of a group discussion, meeting or class lecture. Using filters, with additional equalization, try to remove as much of the background noise from the recording as possible. Do it without making the voice look like it is processed or unnatural.

Some noises may be widespread and very difficult to remove. Use High-pass, Low-pass, notch filters and noise filters to remove the noise.

Test the quality of the edited sound with the original music. Submit a new file to your teacher. Explain the use of the filters you have used?

SOP 3 : **Recording narration.**

All of us have role models in our life. You get inspired by their life story. Suppose you are given a task to make a documentary film on your role model and you need to make a narration in the video clip. Gather information and make your story ready, and record your audio so that it can be used with the video.

Things to take care while making audio recordings:

➢ Rehearse the vocal delivery of your story.

➢ Be sure the sound is clean no extraneous noise, time intervals, unwanted sounds, hiss, or distortion.

➢ Take pauses at appropriate Places Edit the clip if such things are present in the audio.

➢ Select the proper background music to the audio clip, your sound must be clear to listen.

You can email the output file with your details to your teacher.

Example clip, search on youtube for Dr. APJ Abdul Kalams Biography in Hindi By Gulzar Saab; Motivational Story. Similar kind of audio clip you can make.

Link : https://www.youtube.com/watch?v=LrdrcP2oiyU

SOP 4 :   **Creating sound stories.**

Pick up any story which you like. It may be in your languages like Marathi, Hindi or any other. Rehearse with vocal delivery, multiple times and record the story and then

SOP 5 :   **Record sound for slides presentation.**

You are required to prepare a presentation on any advance upcoming topic in IT field and then record its delivery using audio recorder.

This recording can be then used to understand points which are required to improve your delivery style. Add all the required sound effects like, scary sound, happy music as based on the situationn in the story. You can collect all such stories and publish on your own school's website or youtube.

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3. Basics of Video editing (Kdenlive)

SOP 1 : **Collect the pictures of your issues or problems from your area and then make a video slide show with following requirements.**

➢ Select Suitable background music for the entire duration of the slide shows.

➢ Provide appropriate suitable title in the beginning, provide subtitles to the pictures which describes the image.

➢ Choose transitions between the photos.

➢ Provide proper credits at the end of video.

➢ Submit this video to your teacher.

SOP 2 : Make an exclusive video with all the memories and best pictures of your friend and present him as a gift. Video can include the images, Videos, birthday wishes etc.

SOP 3 : Create a video demonstrating the college achievements in the last year. Following are some of the points you can consider while creating a video.

When editing video cutaways, it's typically easier to edit all of the audio first, then work on video replacements. By contrast, when adding narration to a video, it's best to edit the video first, then synchronize the audio. Since you know the precise lengths of the video clips, you can match the audio by using a combination of rehearsed narration and audio editing.

This exercise should acquaint you with basic techniques for recording and synchronizing audio with a finished video:

❒ Rehearsing a narrative script to achieve a close-to-sync audio recording that will minimize later editing.

❒ Setting up a typical audio editing program for recording.

❒ Coordinating three or more software programs simultaneously during audio recording.

❒ Basic time-based editing of audio files.

❒ Merging audio and video tracks.

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4. Open Street Map (OSM)

SOP 1 : Log in to Open Street Map. Browse the map and find any un-mapped area. Identify and mark the area and give it appropriate tag. Practice with few more objects. Upload your changes from your account.

SOP 2 : Find out a garden, library, cafe, hospital, departmental store, chemist etc. in your neighborhood. These places generally have opening hours or entry is restricted during certain hours. Find out the correct opening hours.

Tag the place if it is not already done and enter the opening hours in the proper format in Open Street Map.

SOP 3 : Locate your friend or relative's residence or your native place which is far away from your home. Ensure that it has not been tagged on OSM. After you add the location, email or telephone or message and ask to verify that it can be searched and located on OSM. Hence it would help the travelers in future who use OSM.

SOP 4 : On OSM, choose any small town or village in Maharashtra or from other state or anywhere in the world, preferably not covered by volunteer mappers. Complete all buildings, roads etc. By dividing the work among all the students of the class. Write your experience of collaboration in your own words.

□□□

Appendix

Sample SEO Report

Your Agency Limited
555 9999
enquiries@youragency.com
youragency.com

**Your Agency**

Website Report for test.com

This report grades your website on the strength of a range of important factors such as on-page SEO optimization, off-page backlinks, social, performance, security and more. The overall grade is on a A+ to F- scale, with most major industry leading websites in the A range. Improving a website's grade is recommended to ensure a better website experience for your users and improved ranking and visibility by search engines.

test.com's Result

C+
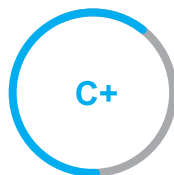
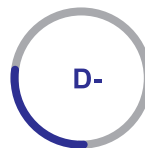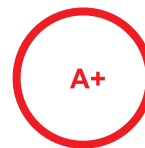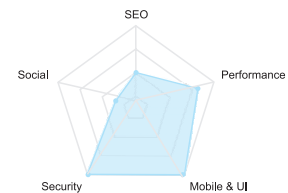### Your page could be better

You have 15 Improvements Recommended
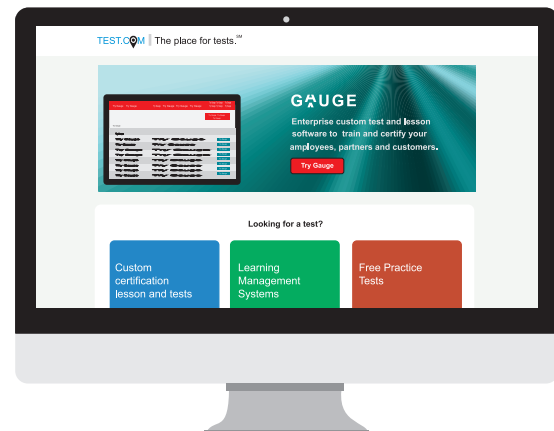
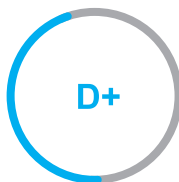| D+	A+	A-	D-	A+
SEO	Usability	Performance	Social	Security

SEO
Social · Performance
Security · Mobile & UI

SEO Results

D+

Your SEO could be better

Your page has some level of optimization but could be improved further. SEO optimization is important to ensure you can maximize ranking potential and drive traffic to your website from search engines. You should ensure you page fulfils common recommended improvements outlined here before moving onto more advanced SEO strategies.

HTML HEADER

Title Tag ✖

Your page does not appear to have a title tag. Title tags are very important for search engines to correctly understand and categorize your content.

Meta Description Tag ✖

Your page appears to be missing a meta description tag. A meta description is important for search engines to understand the content of your page, and is often shown as the description text blurb in search results.

BODY CONTENT

Header Tags ✖

Your page is not making effective use of header tags.

HTML header tags are an important way of signaling to search engines the important content topics of your page, and subsequently the keywords it should rank for.

Header Tag | **Frequency**

Header Tag	Frequency
H1	0
H2	0
H3	0
H4	0
H5	0
H6	0

Keyword Consistency ✖

Your page's main keywords are not distributed well across the important HTML tags.

Your page content should be focused around particular keywords you would like to rank for. Ideally these keywords should also be distributed across tags such as the title, meta and header tags.

Keyword	Title	Meta Description Tag	Headings Tags	Page Frequency	
browser	☐	☐	☐	2	
site	☐	☐	☐	1	
requires	☐	☐	☐	1	
javascript	☐	☐	☐	1	

Keyword	Title	Meta Description Tag	Headings Tags	Page Frequency	
cookies	☐	☐	☐	1	
enabled	☐	☐	☐	1	
please	☐	☐	☐	1	
change	☐	☐	☐	1	
settings	☐	☐	☐	1	
upgrade	☐	☐	☐	1	

Amount of Content ✖

Your page has a low volume of text content which search engines can interpret as 'thin content'. It has been well researched that higher text content volumes are related to better ranking ability in general.

Word Count: 18

Image Alt Attributes ✓

You do not have any images missing ALT attributes on your page.

LINKS

Number of Backlinks ✓
You have a strong level of backlink activity to this page.

🔗 160761	🔗 318789	📊 77
External Backlinks	All Backlinks	Moz Domain Authority

On-page Link Structure *i*
We found 0 total links. 0% of your links are external links and are sending authority to other sites. 0% of your links are nofollow links, meaning authority is not being passed to those destination pages.

Broken Links ✓
We have not detected any broken links on your page.

Friendly URLs ✓
Your page links appear friendly (easily human or search engine readable).

OTHER

Robots.txt ✓
Your website appears to have a robots.txt file.

http://test.com/robots.txt

XML Sitemaps ✖

We have not detected or been able to retrieve a XML sitemaps file successfully.

A sitemap includes a list of your pages that are available for crawling,
as well as other useful

information for search engines such as last update times and priority of pages. Sitemaps are recommended to ensure that search engines can intelligently crawl all of your pages.

Analytics ✖

We could not detect an analytics tool installed on your page.

Website analytics tools like Google Analytics assist you in measuring, analyzing and ultimately improving traffic to your page.

Usability

A+

Your usability is very good!

Your page is highly usable across devices. Usability is important to maximize your available audience and minimize user bounce rates (which can indirectly affect you search engine rankings).

Device Rendering *i*

This check visually demonstrates how you page renders on different devices. It is important that your page is optimized for mobile and tablet experiences as today the majority of web traffic comes from these sources.
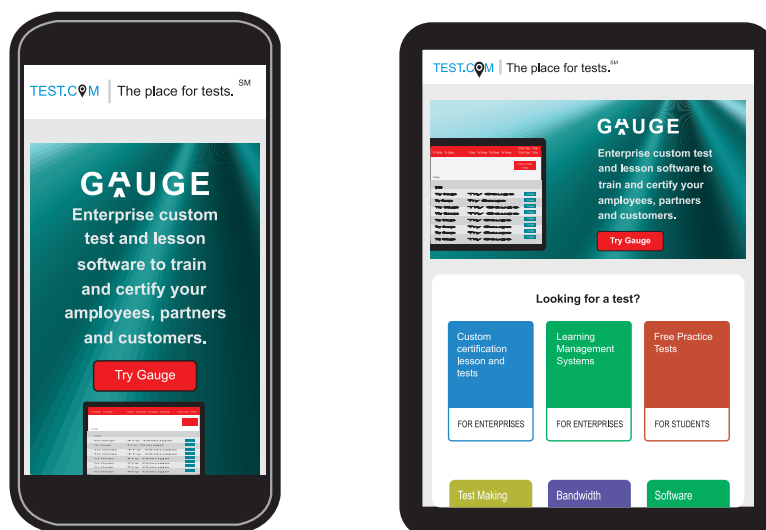
Use of Mobile Viewports ✓

Your page specifies a viewport matching the device's size, allowing it to render appropriately across devices.

Flash Used? ✓

No Flash content has been identified on your page.

iFrames Used? ✓

There are no iFrames detected on your page.

Favicon ✓

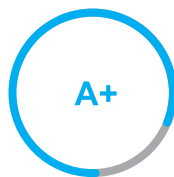Your page has specified a favicon.

Legible Font Sizes ✓

The text on your page appears to be legible across devices.

Tap Target Sizing ✓

The links and buttons on your page appear to be appropriately sized for a user to easily tap on a touchscreen.

Performance Results

A+

Your performance is very good!

Congratulations, your page has performed very well in our testing meaning it should be reasonably fast and responsive for users. Performance is important to ensure a good user experience, and reduced bounce rates (which can also indirectly affect you search engine rankings). Continue to monitor your performance over time to ensure there are no periodic fluctuations.

Page Speed Info ✓

Your page's server response time is reasonably low which is good for load speed and user experience.

Server Response	All Page Content Loaded	All Page Scripts Complete
0.27s	5.2 s	2.7s
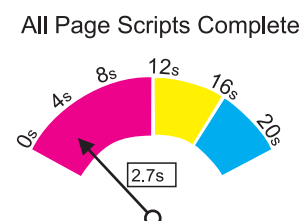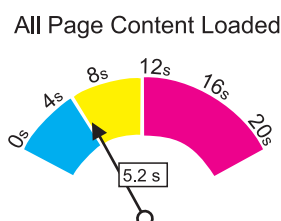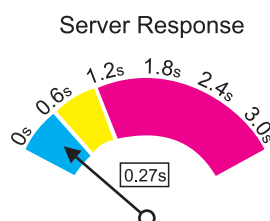
Page Size Info ✓

Your page's file size is reasonably low which is good for Page Load Speed and user experience

Total Page Size

8MB 12MB

4MB 16MB

0MB 20MB

0.5MB

Page Size Breakdown

HTML (0.01MB)
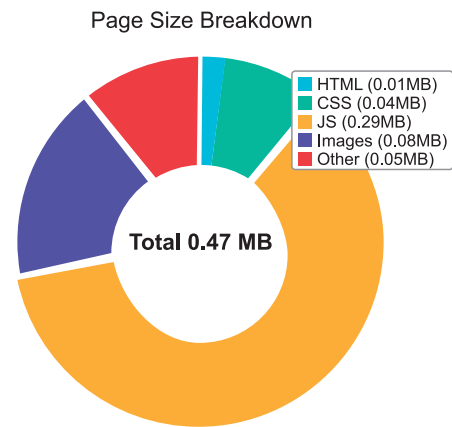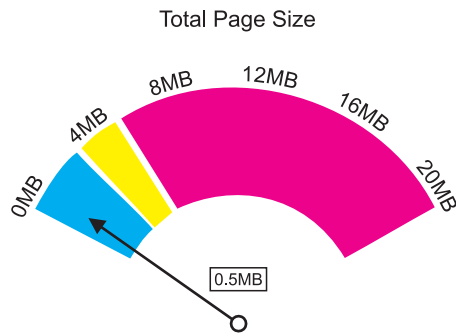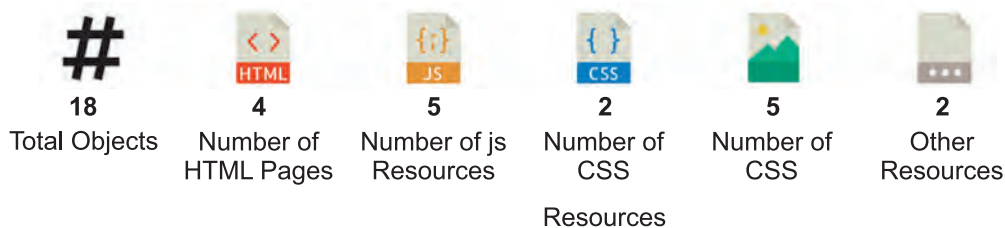CSS (0.04MB)
JS (0.29MB)
Images (0.08MB)
Other (0.05MB)

Total 0.47 MB

Number of Resources   *i*

This check displays the total number of files that need to be retrieved from web servers to load
your page. As a general rule, having more files to retrieve increases the number of server
requests and can subsequently increase page load time. It is a good idea to removing
unneccessary files or consolidate files like styles and scripts where possible.

#	**HTML**	**JS**	**CSS**	**image**	**...**
18	**4**	**5**	**2**	**5**	**2**
Total Objects	Number of HTML Pages	Number of js Resources	Number of CSS Resources	Number of CSS	Other Resources

JavaScript Errors   ✔

Your page is not reporting any JavaScript errors.

GZIP Compression   ✔

Your website is using GZIP compression.

Optimize Images   ✖

Your page appears to include images which are poorly optimized. Properly formatting
and compressing images can have a significant impact on page load performance.

Minification   ✔

All your JavaScript and CSS files appear to be minified.

W3C Validity   ✖

Your page does not appear to be W3C compliant. W3C compliance ensures the use of
modern standards and improves the likelihood of your page rendering appropriately in
future browser versions.

Errors: 5
Warnings: 3

Deprecated HTML ✔
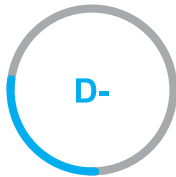
No deprecated HTML tags have been found within your page.

Inline Styles ✔

No inline styles have been found within your page's HTML tags.

Social Results

D-

Your social needs improvement

You appear to have a weak social presence or level of social activity (or we may just not be able to see your profiles!). Social activity is important for customer communication, brand awareness and as a marketing channel to bring visitors to your website. We recommend that you list all of your profiles on your page for visibility, and begin to build a following on those networks.

Facebook Connected ✖
No associated Facebook Page found as a link on your page.

Twitter Connected ✖
No associated Twitter profile found as a link on you r page.

Twitter Connected ✖
No associated Google+profile found linked on your page.

Twitter Connected ✖
No associated Instagram profile found linked on your page.

Twitter Connected ✖
No associated Youtube channel found linked on your page.

Twitter Connected ✖
No associated LinkedIn profile found linked on your page.

Social Shares ✔
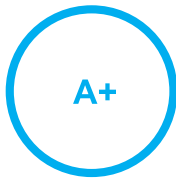Your page appears to be being shared on social networks.

621543	**0**	**4911**	**7344**
Facebook	**LinkedIn**	**Pinterest**	**Stumbleupon**

Your security looks very good!

We haven't identified obvious security problems on your website. Security is important to ensure your website protects user data, doesn't become compromised or experience downtime or data loss. We recommend ongoing patching and the continuous use of protective monitoring tools.

A+

SSL Enabled

Your website has SSL enabled.

✓

HTTPS Redirect

Your page successfully redirects to a HTTPS (SSL secure) version.

✓

Malware Check

Your website has been flagged as safe by popular malware scanners

✓

Google Safe Browsing ✓   McAfee ✓   Norton by Symantec ✓   AVG ✓

Critical Software Up To Date

No outdated software versions were identified on you server.

✓

Email Privacy

No email addresses have been found in plain text on you page.

✓

Technology Results

Technology List

i

These software or coding libraries have been identified on your page.

	Technology	Version
	Google Analytics	UA
	Google Tag Manager	
	ZURB Foundation	
	jQuery	

Server IP Address

i

69.172.200.235

DNS Servers

i

ns65.worldnic.com
ns66.worldnic.com

Web Server

i

nginx/1.13.12

Charset

i

text/html

Recommendations

SEO	Add a title tag (ideally between 10 and 70 characters)	High Priority
SEO	Include a meta description tag	High Priority
SEO	Use your main keywords across the important HTML tags	Medium Priority
SEO	Implement a XML sitemaps file	Medium Priority
Social	Create and link your Facebook Page	Medium Priority
SEO	Make greater use of header tags	Medium Priority
Performance	Ensure your page is W3C compliant	Low Priority
SEO	Increase Page text content	Low Priority
Performance	Optimize your images to reduce their file size	Low Priority
SEO	Implement an analytics tracking tool	Low Priority
Social	Create and link your Twitter profile	Low Priority
Social	Create and link an associated Google+ profile	Low Priority
Social	Create and link associated Instagram profile	Low Priority
Social	Create and link an associated Youtube channel	Low Priority
Social	Create and link an associated LinkedIn profile	Low Priority

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.

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