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**COMSATS UNIVERSITY ISLAMABAD, ABBOTTABAD CAMPUS**

**Subject: Web Technologies**

**Theory Assignment # 01**

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**Submitted by:**

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1. Describe the use of PHP, JavaScript, Python, and Java web technologies for developing websites.

Each programming language has its own unique strengths which makes them important to choose the right language based on the specific needs of the project.

**PHP:**

PHP is considered a server-side scripting language commonly used with MySQL for database management to develop websites. Being an open-source web tech, it offers pre-built libraries and frameworks to ease web development and web applications.

**JavaScript:**

JavaScript is considered a client-side scripting language commonly used with HTML and CSS to develop interactive user interfaces and to design modern and responsive web.

**Python:**

A general-purpose programming language used for a wide variety of applications, including web development. It is known for its ease of usability and readability, which makes it a popular choice among developers.

**Java:**

A general-purpose programming language that is used for a wide variety of applications, including web development. Java is a popular choice among large-scale web applications because of its stability and security.

1. Which language is popular all over the world?

According to the developer survey conducted by stack overflow, JavaScript stands as the most used language in the world having a percentage of 69.7 followed by Python and Java. Because it’s easy to learn and most web browsers utilize it. It does not require any prior coding knowledge.

World’s most popular websites like LinkedIn, Amazon, and Facebook are the frontend code of JavaScript.

Most developers use it to develop server-side applications using node.js.

JavaScript is easy to use, thanks to a large user community and extensive documentation.

1. Which language do you prefer to use and why?

I would prefer JavaScript, being the most commonly used web technology and it does not require any prior coding knowledge.

1. Discuss at least 5 frameworks used for each of these web technologies.

Frameworks used for each of these web technologies:

*Frameworks used for PHP:*

* Laravel
* Symfony
* CodeIgniter
* CakePHP
* Yii

*Frameworks used for JavaScript:*

* React
* Angular
* Vue.js
* Ember.js
* Backbone.js

*Frameworks used for Python:*

* Django
* Flask
* Pyramid
* Web2Py
* CherryPy

*Frameworks used for Java:*

* Spring
* Hibernate
* Struts
* Play Framework
* Vaadin

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| --- | --- | --- | --- | --- | --- | --- |
| Technology | Advantages | Disadvantage | Salary Range (PKR) | Jobs Count in Market | Jobs Count in Freelancing Platforms | Job Clusters |
| **PHP** | PHP has some importance due to Cross-platform compatibility also has large community support, Easy to learn. | PHP has issues related to security and to performance.  It’s also not considered ideal for large-scale applications | 30,000 - 200,000 | 3,000+ | 10,000+ | Karachi, Lahore, Islamabad |
| **JavaScript** | JavaScript has importance in the market because of its front-end development and can be used for both web and mobile development also has large community support | JavaScript has issues related to Security. And also, not browser compatible. | 50,000 - 300,000 | 40,000+ | 30,000+ | Karachi, Lahore, Islamabad |
| **Python** | Python is recently considered one of the languages to learn easily and highly productive.  Python is also considered best for data analysis and computing | Some issues related to performance and also not considered ideal for mobile development | 50,000 - 300,000 | 2,000+ | 20,000+ | Karachi, Lahore, Islamabad |
| **Java** | Fast and reliable  Java is good for large-scale applications and Cross-platform compatibility | Java takes a lot of Memory and startup time. | 50,000 - 350,000 | 1,500+ | 10,000+ | Karachi, Lahore, Islamabad |

1. Provide a chart to display relevant statistics.

|  |  |  |
| --- | --- | --- |
| ***Technology*** | ***Jobs Count in Pakistan Market*** | ***Jobs Count in Freelancing Platforms*** |
| *PHP* | 3,000 | 10,000 |
| *JavaScript* | 40,000 | 30,000 |
| *Python* | 2,000 | 20,000 |
| *Java* | 1,500 | 10,000 |