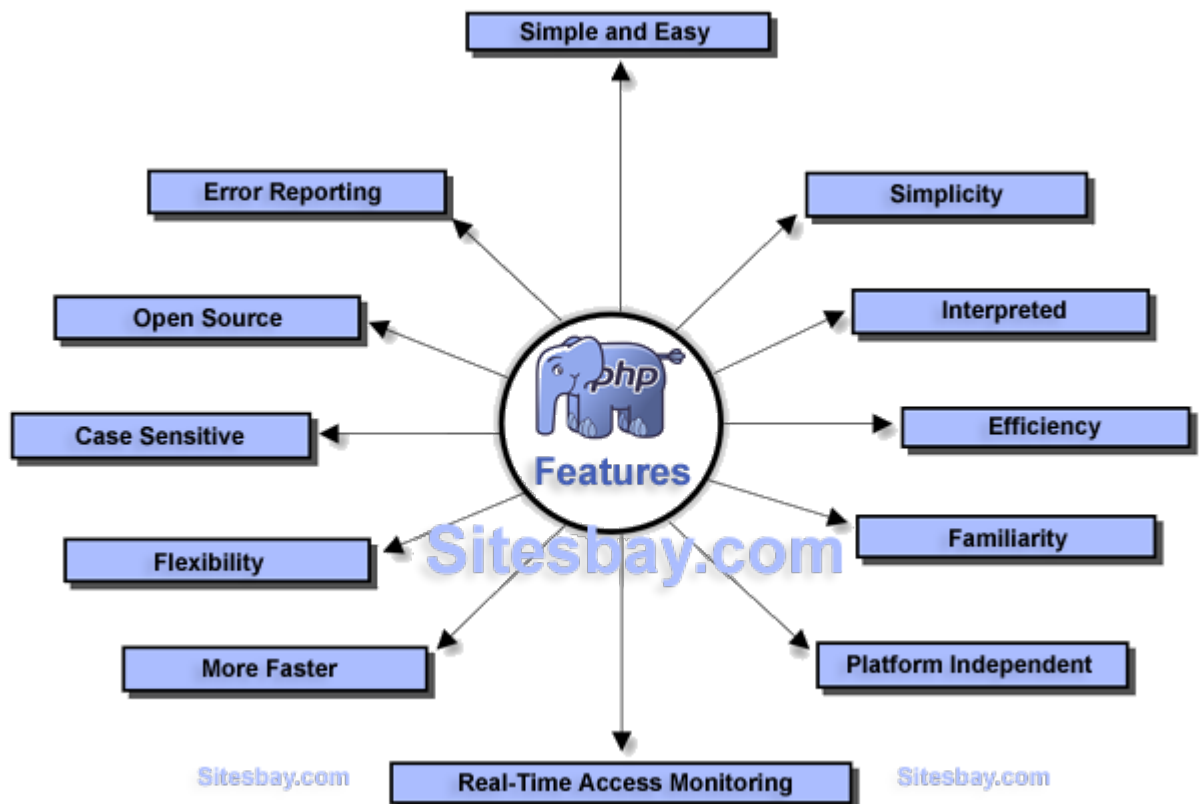## UNIT-4

PART-A

1. **Define PHP.**

    PHP is defined as a server side scripting language that is mainly used for form handling and database access.
    - PHP is an acronym for "PHP: Hypertext Preprocessor"
    - PHP is a widely-used, open source scripting language
    - PHP scripts are executed on the server
    - PHP is free to download and use

2. **Mention the features of PHP.**

3. **List the uses of PHP**
    - To perform system functions such as file create, open, close, read, write, etc
    - To handle forms, gather data from files, save data to a file, send email, etc
    - To add, delete, modify database contents
    - To access and set cookies and variables
    - To restrict users from page access
    - To encrypt data

4. **What are the rules in PHP?**
    - White space insensitive
    - Case sensitive

- Each statement ends with semi colon
- Expressions are combination of tokens
- Braces creates blocks
- $ is used before variables
- Save file as .php and access it from localhost server

5. List the data types in PHP.

Simple types	Compound types	Miscellaneous
1. Integer	6. Arrays	8. Resourcess
2. Double	7. Objects	
3. Boolean		
4. Null		
5. String		

6. Differentiate echo and print in PHP.

echo	Print
No return value	Return value is 1
Cant be used in expression	Can be used in expression
Can take many parameters	Can take 1 parameter
Faster than print	Slower than echo

7. Explain foreach loop in PHP.

``php
<?php
$a = array (1,2,3);
foreach($a as $i)
{
echo "$i
 ";
}
``
 	
Output:-
1
2
3
	• Foreach loop is very much useful in iterations
	• The name itself suggests, for each iteration in for loop, it performs the operations.
	• Iteration variable goes through all the elements in the array

8. What are cookies in PHP?

A cookie is often used to identify a user. A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.A cookie is created with the setcookie() function.

Syntax
setcookie(name, value, expire, path, domain, secure, httponly);

9. Define XML.

XtensibleMarkup language: XML is defined as a text based mark up language derived from Standard Generalised MarkupLanguage.It was developed by W3C in Feb 1998 to overcome HTML. A web script that contains XML tags is called XML document. It is a mark up language that defines set of rules for encoding documents in a format that is both human readable and machine readable. It is not a programming language.

10. List the features of XML.
- Excellent for handling data with a complex structure or atypical data
- Data described using markup language
- Text data description
- Human- and computer-friendly format
- Handles data in a tree structure having one-and only one-root element
- Excellent for long-term data storage and data reusability.

11. What are the rules in XML declaration?

An XML declaration should abide with the following rules −

- If the XML declaration is present in the XML, it must be placed as the first line in the XML document.
- If the XML declaration is included, it must contain version number attribute.
- The Parameter names and values are case-sensitive.
- The names are always in lower case.
- The order of placing the parameters is important. The correct order is: version, encoding and standalone.
- Either single or double quotes may be used.
- The XML declaration has no closing tag i.e. </?xml>

12. Give an example XML declaration.

<?xml version = "1.0" encoding = "UTF-8">

13. Differentiate XML and HTML.

S.No	XML	HTML
1	XML provides user definable tags	HTML provides defined set of tags designed for web display
2	XML is content driven	HTML is format driven
3	End tags are essential in a well formed XML document. In a well formed document, elements can be defined as single tag or a pair of tags like <student/> or the <student>...</student> pair	End tags are not always required.<HTML> tag needs an equivalent </HTML> tag but tag does not require </br> tag
4	Quotes required around attribute values	Quotes are not required for the values of attributes
5	Slash required in empty tags	Slash not required
6	XML is used for describing data	HTML is used for designing pages

14. What are the advantages of XML?
- Human readable, easy to understand
- Language neutral
- Tree structured, understood in simpler manner
- Independent of hardware, software and OS
- User defined tags

15. Mention the uses of XML.
- To display meta contents
- To exchange data between applications and databases
- To store any kind of complex data in simpler way
- A java program can generate XML and can be parsed by Perl

16. What are the building blocks of XML?
- Elements (start and end tags)
- Attributes (flag type="true")
- CDATA (Character DATA, parsed by XML parser)
- PCDATA (Parsed Character DATA, i.e., text)

17. What is DTD?
DTD (Document Type Definition) is a way to describe XML language precisely. DTDs check vocabulary and validity of the structure of XML documents against grammatical rules of appropriate XML language.

An XML DTD can be either specified inside the document, or it can be kept in a separate document and then liked separately.
Syntax

Basic syntax of a DTD is as follows −

<!DOCTYPE element DTD identifier

```
[
  declaration1
  declaration2
  ........
]>
```

18. What is XML schema?

XML Schema is commonly known as XML Schema Definition (XSD). It is used to describe and validate the structure and the content of XML data. XML schema defines the elements, attributes and data types. Schema element supports Namespaces. It is similar to a database schema that describes the data in a database.

```
Example:
<?xml version = "1.0" encoding = "UTF-8"?>
<xs:schemaxmlns:xs = "http://www.w3.org/2001/XMLSchema">
<xs:element name = "contact">
<xs:complexType>
<xs:sequence>
<xs:element name = "name" type = "xs:string" />
<xs:element name = "company" type = "xs:string" />
<xs:element name = "phone" type = "xs:int" />
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>
```

19. Define XML DOM.

The Document Object Model (DOM) is the foundation of XML. XML documents have a hierarchy of informational units called nodes; DOM is a way of describing those nodes and the relationships between them.
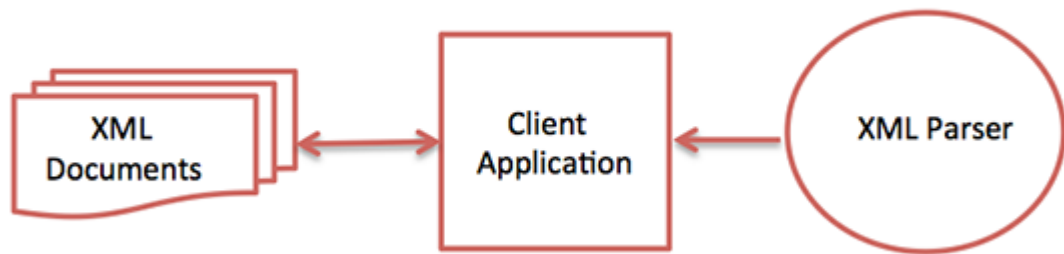
A DOM document is a collection of nodes or pieces of information organized in a hierarchy. This hierarchy allows a developer to navigate through the tree looking for specific information. Because it is based on a hierarchy of information, the DOM is said to be tree based.

The XML DOM, on the other hand, also provides an API that allows a developer to add, edit, move, or remove nodes in the tree at any point in order to create an application.

20. Define XML parser.

XML parser is a software library or a package that provides interface for client applications to work with XML documents. It checks for proper format of the XML

document and may also validate the XML documents. Modern day browsers have built-in XML parsers.

The goal of a parser is to transform XML into a readable code.

21. Differentiate DOM and SAX.

DOM	SAX
Document Object model	Simple API for XML
Tree based parsing to parse the XML document	Event based parsing to parse the XML document
Entire XML is stored in memory before actual processing	Parsing is done by sequence of events
Useful for smaller apps	Useful for large apps
Simple and less memory needed	Complex and more memory needed
We can insert or delete a node	We can insert or delete a node
Traverse in any direction	Top-down traversing

22. What are the rules of a well formed XML?

An XML document is said to be well-formed if it adheres to the following rules −

- Non DTD XML files must use the predefined character entities for amp(&), apos(single quote), gt(>), lt(<), quot(double quote).
- It must follow the ordering of the tag. i.e., the inner tag must be closed before closing the outer tag.
- Each of its opening tags must have a closing tag or it must be a self ending tag.(<title>....</title> or <title/>).
- It must have only one attribute in a start tag, which needs to be quoted.

- amp(&), apos(single quote), gt(>), lt(<), quot(double quote) entities other than these must be declared.

23. Write an example code for a well-formed XML document.

```
<?xml version = "1.0" encoding = "UTF-8" standalone = "yes" ?>
<!DOCTYPE address
[
<!ELEMENT address (name,company,phone)>
<!ELEMENT name (#PCDATA)>
<!ELEMENT company (#PCDATA)>
<!ELEMENT phone (#PCDATA)>
]>

<address>
<name>TanmayPatil</name>
<company>TutorialsPoint</company>
<phone>(011) 123-4567</phone>
</address>
```

24. Define validation.

Validation is a process by which an XML document is validated. An XML document is said to be valid if its contents match with the elements, attributes and associated document type declaration(DTD), and if the document complies with the constraints expressed in it. Validation is dealt in two ways by the XML parser. They are −

- Well-formed XML document
- Valid XML document

25. What is XSL?

XSL is a language for expressing style sheets. An XSL style sheet is, like with CSS, a file that describes how to display an XML document of a given type. XSL shares the functionality and is compatible with CSS2 (although it uses a different syntax). It also adds:
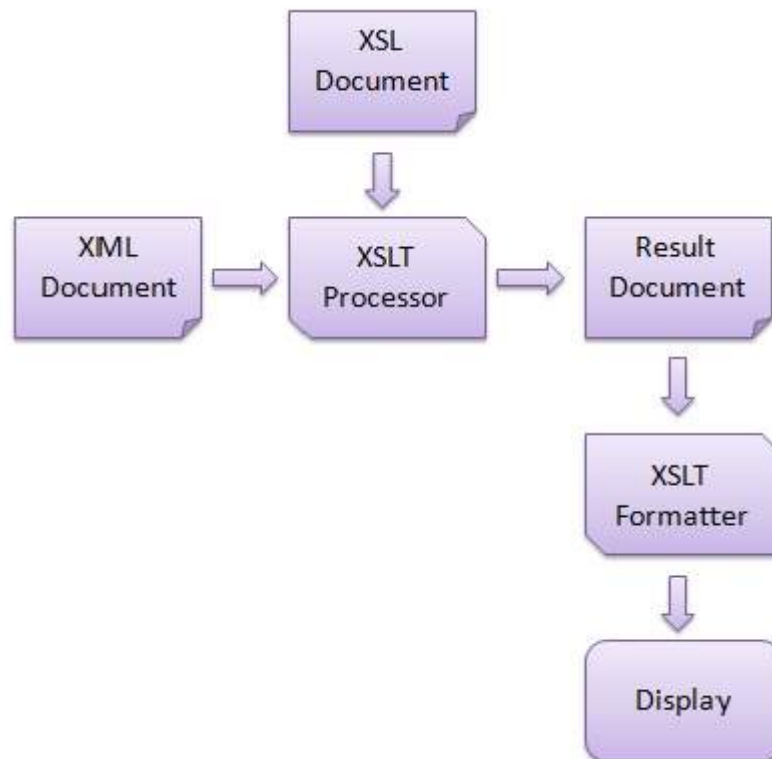
- A transformation language for XML documents: XSLT.
- Advanced styling features, expressed by an XML document type which defines a set of elements called Formatting Objects, and attributes.

26. What are the parts of XSL?

- XSLT: XSL Transformation, to transform XML
- XPath: a language for navigating XML
- XSL-FO: XSL-Formatting Objects, for formatting XML

27. What is XSLT?

XSLT, Extensible Stylesheet Language Transformations, provides the ability to transform XML data from one format to another automatically.

28. List the advantages of XSLT.

- Independent of programming. Transformations are written in a separate xsl file which is again an XML document.
- Output can be altered by simply modifying the transformations in xsl file. No need to change any code. So Web designers can edit the stylesheet and can see the change in the output quickly.

29. What is XML namespace?

XML allows document authors to create custom elements. This extensibility can result in naming collisions (i.e. different elements that have the same name) among elements in an XML document. An XML namespace is a collection of element and attribute names. Each namespace has a unique name that provides a means for document authors to unambiguously refer to elements with the same name (i.e. prevent collisions).

30. Define newsfeed.

A news feed (newsfeed) is list of newly published content on a website. End users can receive push updates for new content on a site by subscribing to the site's news feed.It can provide updated news, stock market shares, cricket scores, etc.