1. What is the main functionality of a browser?
2. High level components of a browser.
3. Rendering engine and its uses.

DATA PERSISTENCE

UI BACKEND

NETWORKING

JAVASCRIPT

INTERPRETER

RENDERING ENGINE

BROWSER ENGINE

USER INTERFACE

**User Interface:** The space where user interacts with the browser. It includes address bar, reload button, home etc.

**Browser engine:** It acts as the bridge between the user interface and rendering engine. it manipulates the rendering engine according to the inputs from user.

**Rendering Engine:** It interprets the HTML documents and images that are formatted using CSS and JavaScript.

**Networking:** Retrieves the URLs using the common internet protocols of HTTP or FTP.

**JavaScript interpreter:** Interprets and executes the javascript code embedded in website. and result are sent to the rendering engine for display.

**UI Backend:** UI backend is used for drawing basic widgets like combo boxes and windows.

**Data Persistence:** It is the small database created in local drive of the computer where the browser is installed.

1. Script Processor:

The Script processor allows you to specify your own processor logic for a simple processor using JavaScript. The script is entered as an option on the script processor.

1. Tree Construction:

DOCUMENT

ROOT ELEMENT

<HTML>

ELEMENT:

<a>

ATTRIBUTE

“href”

TEXT:

MY LINK

TEXT:

“MY TITLE”

ELEMENT:

<TITLE>

ELEMENT:

<BODY>

ELEMENT:

<HEAD>

1. Order of Script processing:

When the browser processes an HTML document, it does so from top to bottom. Upon encountering a <script> tag, it halts further processing in order to download the referenced script file.

1. Layout and Painting:

**Layout:** The layout (also called reflow) peace will be in charge to calculate the positions and dimensions of each node on the screen. For instance, if you rotate your phone, or if you resize your browser, the layout peace will be executed.

**Painting:** When nodes are visible, and their computed styles and geometry, after that browser converts each node in the render tree to actual pixels on the screen and its called Painting.