**CSS**

**1) What is css ?**

* **CSS stands for cascade style sheet**
* **By using css, we can apply styles to the HTML web pages.**
* **Styles like background color, font color, border, width, size ...**

**2) Type of css or how do define css to the html web pages?**

* **External style - Writting all styles in different file and include using link tag**
* **Internal style - Wrtitting all styles in html page in the top of the page wiht style tag.**
* **Inline style – Writting style to each tag using style attribute.**

**3) Difference between margin and padding ?**

* **Both margin and padding are used to provide the space around the element.**
* **Margin is the space outside of an element border, but padding is the space inside of an element border.**

**4) What is css selector ?**

* **CSS selectors are used to find the element which you want to style.**
* **Types of CSS selectors**
  + **Simple selectors – Select the element using name, id or class**
    - **Example p{color:red}, #topheader{background:red}, .topmenu{color:green}**
  + **Combinator selectors – Select the element using relation between them**
    - **Example div p{color:red}, div>p{color:red}, div+p{color:red}, div~p{color:red}**
  + **Attribute selectors – Select the element using attribute or attribute value**
    - **Example a[target]{color:red}, input[type=’text’]{width:150px}**
  + **pseudo-class selectors – Select the element using based on certain state**
    - **Example a:cover{color:red}, a:visited{color:green}**
  + **pseudo-elements selectors - Select and style the part of the element**
    - **Example p::first-line{color:red}, p::first-letter{color:red}**

**5) Types of position states ?**

* **static(default)**
* **Fixed**
* **absolute**
* **relative**

**6) Difference between relative and absolute position state**

* **relative – It is positioned the element from its original position**
* **absolute – It is positioned based on parent element position state. If paret element doesn’t have relative position, it is positioned from document body(for ex: from top of the page, from left corner of the page).**

**7) What is the use of ‘!important’ in css ?**

* **In css, !important means that ‘this is important’ than normal property**
* **When we use external style, but we need to change to specific page or section, in this situation, we use !important to change the style.**

**Magento 2**

**1) What is namespace ?**

* **Namespace is one of the way to encapsulate items. It prevents the name collision between code you create, and php internal or external class, functions and constants.**
* **For ex: when develop single feature, we may include different libraries. These libraries may use same class and function. So we face name collision issue. To avoid this, we use namespace.**

**1) What is the use of env.php file?**

* **In Env config file, we can config the following items** 
  + **Database**
  + **Admin frontend name (Admin url)**
  + **Encryption key**

**2) what is the use of config.php ?**

* **In config file, we are able to see list of available modules with status. By changing, we can enable or disable module.**

**3) What is the use of bootstrap.php ?**

* **bootstrap.php file** w**hich performs essential initialization**
  + **Error handling**
  + **setting profiling option**
  + **setting default timezone**
  + **initialize autoloader**

**4) How to Create Setup, Upgrade, Uninstall Script in Magento 2 ?**

* **InstallShema.php => For creating table**
* **InstallData.php => For adding data into table**
* **UpgradeSchema.php => For updating table**
* **UpgradeData.php => For adding additional data into table**
* **Uninstall.php => drop the table**

**5) How do override the controller in Magento 2?**

* **Create custom module**
* **Create di.xml file in the module etc folder**
* **Then add the following xml code**

**<?xml version="1.0"?>**

**<config xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="../../../../../lib/internal/Magento/Framework/ObjectManager/etc/config.xsd">**

**<preference for="Magento\Cms\Controller\Index\Index" type="[Name Space]\[Your Module]\Controller\Cms\Index" />**

**</config>**

* **Then add controller what you mentioned in the di.xml file and which controller should extend the controller which you need to override.**
* **Then enable the module.**

**6) How do enable the module ?**

* **Magento 2 provide the commands for that. Please use the below commands** 
  + **php bin/magento module:status**
  + **php bin/magento module:enable namespace\_modulename**
  + **php bin/magento setup:upgrade**
  + **php bin/magento static-content:deploy -f**
  + **php bin/magento cache:clean**

**6.1) How do reindex in magento 2?**

* **Reindex all indexers**
  + **php bin/magento indexer:reindex**
* **Reindex specific indexer** 
  + **php bin/magento indexer:reindex customer\_grid**
* **Check the indexer codes**
  + **php bin/magento indexer:info**

**7) what is event observer in magento 2?**

**8) what is mvc ?**

* **MVC, or Model, View, Controller, is a type of architecture in which business logic, data access, and user interface are separated for applications.**
* **MVC has two different types: configuration-based and convention-based.**
* **However, Magento uses the configuration-based version. This means that to get a module’s config file to work, everything must be specified to it.**

**9) What is EAV Architecture ?**

* **EAV stands for entity attribute value**
* **EAV is database architecture**
* **In Magento, EAV architecture is followed for storing information. For example consider production information. For storing this details, Magento store details in different tables based on the product attribute types**
  + **Main table => catalog\_product\_entity**
  + **name => catalog\_product\_entity\_varchar**
  + **description => catalog\_product\_entity\_text**
  + **price => catalog\_product\_entity\_price**

**10) Merit and Demerit of the EAV architecture**

* **Merit:**
  + **In Magento, information are stored in different table based on attribute type. So no need to change the database structure, if you add additional attributes to your entity in future.**
* **Demerit:**
  + **Informations are stored in multiple tables. So we should join the multiple tables to take data. So It takes time to get data.**

**11) What is ORM ?**

* **ORM stands for Object Relational Mapping**
* **It gives the feature of interact with database using our language instead of SQL.**

**12) What is Object Manager ?**

* **Object Manager is responsible to initializing object in the magento application.**

**13) What is factory class ?**

* **Object manager is the responsible for initiating object, magento prohits to use object manager directly.**
* **So magento provids factory class, by using factory class we can create object to the model.**

**14) What is the use of plugin ?**

* **Changing the behaviour of the public function of the class without edit the class directory.**
* **It gives the methods before(), after() and around()**
  + **before() - This will be called before function which we need to intercept. By this, we can chnage the input**
  + **after() - This will be called after function which need to intercept. By this, we can change the output**
  + **around() - By using we can change the input and output of the function which we need to intercept.**
* **Reference :** [**https://webkul.com/blog/magento2-use-plugins/**](https://webkul.com/blog/magento2-use-plugins/)

**15) Difference between cache:clean and catch:flush**

* **catch:clean – clear the magento catch only**
* **catch:flush – clear all catches, which affect the other process applications that are using same storage.**

**16) Where magento default themes are located ?**

* **Vendor/magento**
  + **theme-frontend-blank**
  + **theme-frontend-luma**

**17) Pls tell some default modules used by magento ?**

* **Customer**
* **Catalog**
* **Catalog Search**
* **Quote**
* **Checkout**

**18) What are the modes available in Magento 2?**

* **default**
* **developer**
  + **Disable static file caching(by deploy static files to every request)**
  + **Enable debugging**
  + **show errors in frontend**
  + **Show custom X-Magento-\* HTTP request and response headers**
  + **enable automatic code compilation**
* **production**
  + **Errors or exceptions are written on log file only**
  + **Disable code compilation**
  + **Serve static files from cache only(static folder – not deploy to each request, so need to generate static file using command before change mode to production)**

**19) Differecne between customer and user ?**

* **Customer – who can register through frontend and he is able to purchase the product from frontend**
* **User – By using user account can’t login in frontend. This credentials are useful for admin login only.**

**20) Is Magento has option to change magento user as customer ?**

* **No**

**21) What is ACL ?**

* **ACL stands for access control list**
* **By ACL, we can set permission to allow(read/write) list of features by the admin users.**

**22) What is custom attributes ?**

**23) Which table store theme details in magento 2?**

* **theme**

**24) What are the tables are used for storing admin user ?**

* **admin\_user**
* **admin\_passwords**
* **admin\_user\_session**

**25) In which table site, secure and unsecure urls are stored ?**

* **core\_config\_data**

**26) How to create child theme in magento 2?**

* **In app folder, create design folder**
* **Create theme by vendor/theme name**
* **Create theme.xml file in etc directory**
* **Create registration.php and composer.json**
* **Create media directory and add preview image**
* **Give permission to your theme folder**
* **Now open admin > content > themes**
* **Click edit link and choose your theme in the 'Applied theme' dropdown**
* **Finally create static content using the command**
  + - **php bin/magento setup:static-content:deploy**

**27) How do remove common section of all pages ?**

* **Create the child theme in app/design/frontend**
* **In child theme, create Magento\_Theme direcory,**
* **Create layout folder and default.xml within layout directory.**
* **Check what block used to your section.**
* **Add the remove attribute to the reference block**
* **<referenceBlock name="forgot-password-link" remove="true" />**
* **6) Then remove the cache**
* **7) Now you can able to see changes in pages.**

**28) How do add new order status or view existing order statuses ?**

* **Stores -> Order Status**

**29) How order status are changed ?**

* **After create the order - Pending**
* **If shipping or payment is completed - Processing**
* **After both shipping and payemnts are completed - Complete**
* **If user cancel the order - Cancel**
* **After Refund(Credit Memo - This enable after payment only) - Closed**

**30) Increase site performance in magento 2?**

* **Enable production mode**
* **Disable unwanted module**
* **Minify css, js**
* **Optimize the image size**
* **Enable browser cache by adding mode\_expires to file types**
* **Use cdn for loading images, styles and scripts**
* **Enable Server side cache(built in cache or varnish)**
* **Load the styles at top**
* **Load the scripts at bottom**

**31) Difference between addAttributeToFilter() and addFieldToFilter() functions?**

* **addAttributeToFilter() is used to filter EAV collections.**
* **addFieldToFilter() is used to filter Non-EAV collections.**

**32) Difference between Base Currency and Display Currency ?**

* **Base currency only can be set up at global/ website scope.(Base currency is used for all payement transactions)**
* **display currency and allow currency can be set up for each store view. We can adjust the relationship between these kinds of currency through the currency rate.**

**33) How do set currency rate in magento 2 admin ?**

**34) List of sessions in Magento 2?**

* **Magento Backend**
* **Customer**
* **Checkout**
* **Catalog**
* **Newsletter**

**35) Difference between Bundle Product and Grouped Product ?**

**In both type, we added several products and sell them as a single product. In Bundle product, customers can choose custom options(size, color) to each associated products, but in grouped product, not able to choose options.**

**36) Difference between Custom Attributes and Extension Attributes**

**37) What is RecurringData in magento 2?**

**[https://devdocs.magento.com/guides/v2.3/extension-dev-guide/prepare/lifecycle.html#recurring-data-event](https://devdocs.magento.com/guides/v2.3/extension-dev-guide/prepare/lifecycle.html" \l "recurring-data-event)**

**38) What is CSRF ?**

**CSRF means that Cross Site Request Forgery.**

**For example: Consider Signup process. Submit data to server multiple time without signup form. If website is Ecommerce, we can’t find who is the real user.**

**Avoid:**

**To avoid this attack, we follow one method is, generate token before load the form, and validate this token before process the submitted data .**

**39) What is design patterns ?**

**Design patterns describes the problem which occurs over and over again, also describe the core of the solution to that.**

**40) List of design patterns**

**1) Factory Patterns**

**2) Dependency Injection Pattern**

**3) Proxy pattern**

**4) Service Contract Pattern**

**5)** **Adapter pattern**

**41) what is adapter pattern ?**

**40) What is knockout js ?**

**1) KnockoutJs is javascript library.**

**2) It follows the MVVM(Model - View - View Model) design pattern.**

**3) It is used to create more interactive and dynamic web pages.**

**4) Main feature of knockout js is, two way binding. if you change in view, it will affect in view model, same for vice versa.**

**41) What is RequireJs ?**

**1) Require js is the javascript library. It is a basic loader.**

**2) In modular programming, all functionalities are divided into modules, so need to load the required javascript files modular wise. So Requirejs is the best way to load javascript files to module wise.**

**3) This way, developer can understand what are the dependencies to each module.**

**4) It reduces http requests.**

**5) No need to wory about the order of the dependencies, It manages itself.**

**6) It imporve the speed and quality of code.**

**what are the classses generated automatically(generated directory) in magento 2?**

**1) Factory class**

**2) Proxy class**

**3) Interceptor class**

**What is proxy patten ?**

**When you inject multiple dependencies to your class through constructor, object will be created to all dependencies classes at the time of your class object creation.**

**It create the chain reaction of object creation.**

**To avoid this, we need to pass proxy class instead of your original class.**

**What is adaptor pattern ?**

**1) It works as layer between your code and third party library.**

**2) You should use adaptor class when use third party library. It reduces the change impact on your code when API changes in a third party library.**

**(For ex: If you use library class in your files in different location, when changes in library, you need to work on multiple files.**

**To avoid this, you need to create library class function through your adaptor function class. So now, you need to work on one places only,**

**also you can use native code in all paces)**

**27) 1) what is B2B ?**

**Business to Business.**

**2) What is B2C ?**

**3) Tell me about company ?**

**4) Difference between mysql and mongodb?**

**1) Customers - Can able to maintain customers based on website, but not in store.**

**2) Currency - Can choose base currency to each website, but can choose display currency only.**

**3) Shipping and payment method settings - can configure settings to each webiste, but can't configure in store.**

**4) Prouce wise assigning in website, but we can choose the root category.**

**Core PHP**

**1. What is php ?**

* **Php is object oriented programming language**
* **php is open source**
* **It is used to develop dynamic web pages, api.**

**2. What are the four princples of oops?**

* **Encapsulation**
* **Abstraction**
* **Polymorphism**
* **Inheritance**

**2. What is encapsulation ?**

* **Wrapping set of data such as properties methods into single unit is encapsulation. This is achived by creating class and use private, public and private access modifiers.**
* **Usage:**
  + **When we develop application, we define different properties and methods. If we implement properties or methods of the one feature accedentily again for another feature, It may affect the old one. So we need to hide by following the encapsulation principle.**

**3. What is polymorphisam ?**

* **If methods of the different classes do same thing that should have same name.**

**4. What is inheritance ?**

* **One class use another class member and method by extending the class.**

**5. Types of inheritance ?**

* **Single inheritance**
* **multiple inheritance** 
  + **multiple inheritance is not supported, we can achieve this by interface.**
* **multilevel inheritance**

**6. what is overloading ?**

* **Method overloading allows to create properties and methods dynamically. We can divide the method overloading and property overloading**
* **Property overloading – write and read inaccessible or non-existent properties using \_\_get() and \_\_set() magic functions**
  + **example: cakephp 3: when save the data through entity, we use $user->name=”muthu”, like we get use $user->name; when use check entity, you can’t see these properties. Here \_\_get() and \_\_set() functions are used.**
* **method overloading – access inaccessible or non-existing method using \_\_call() magic fnction**
  + **For ex: cakephp 3 -> Flashcompoent doesn’t have the success or fail function, but we call, $this->flash->success(‘saved successfully’), $this->flash->fail(‘cant save, please check admin’). These two fnctions call \_\_call() magic function.**

**7. what is function overridding ?**

* **Method overriding is a feature that allows implement the parent class method in subclass.**

**8. Is Php support multiple inheritance ?**

* **No, php doesn't support multiple inheritance.**

**9. What is Trait ?**

* **By using multiple inheritance, we can use methods from other single class only. But sometime, we need to load method from different class. Traits give the feature of loading methods from different class.**
* **Can’t use member in trait**

**10. what is the use of static ?**

* **If member or method is defined with static, those are accessible without creating object. Static functions are associated with class only, not an instance of class.**
* **Static method or member can’t be accessed by -> operator, shoudl use scope resolution operator ::**

**11. What is magic method in php ?**

* **Php provides some magic functions which start with two underscore(\_\_).**
* **Magic function works as interceptors that are called automatically when certain conditions are met**
* **For ex: \_\_construct() - this function is called when create the object to the class. So using \_\_construct() magic function, we can initialize the variables.**

**12. Pls tell some magic functions ?**

* **\_\_construct()**
* **\_\_destruct()**
* **\_\_invoke()**
* **\_\_get()**
* **\_\_set()**

**13. Difference between interface and abstract class?**

**Interface:**

**1) able to declare method, not define**

**2) all methods should be public**

**3) Can't declare the member, but can define the constant.**

**4) When implement the inteface, should define all methods which are declared in interface.**

**5) Able to implement more than one interfaces from class.**

**6) one interface can extend any number of interfaces, but can't implement another interface.**

**Abstract Class:**

**1) able to declare and define the methods, but able to declare abstract method only**

**2) all methods should start with abstract**

**3) can't initiate the abstract class, shoudl extends abstract class to use methods.**

**4) when extends abstract class from class, all abstract methods should be defined in class.**

**5) One abstract class can extend another abstract class. When extend from abstract class, you can define to parent abstract method, if not define, should declare same method with abstract keyword.**

**14. When will you use abstract class ? Explain with example ?**

[**https://www.codebyamir.com/blog/when-to-use-an-abstract-class-in-java**](https://www.codebyamir.com/blog/when-to-use-an-abstract-class-in-java)

**MYSQL**

**1) what is mysql ?**

* **Mysql is relational database management system(RDBMS)**
* **It is open source license.**
* **Mysql support large databases, upto 50 millions rows or more in table.**
* **It will work on multiple operating system and work with many languages.**

**2) What is primary key ?**

* **A primary key is a special relational database table column (or combination of columns) used to uniquely identify all table records.**
* **It must contain a unique value**
* **It can't contain null values.**

**3) What is foreign key ?**

* **Foriegn key is special column that contain the value of the other table primary key.**
* **It is used for relating tables.**

**4) What is unique key ?**

* **Like primary key, unique key is the special column or more columns in table.**
* **It is used to uniquely identify the records in the table.**
* **Unique key accept only one null value.**

**5) What is composite key ?**

* **A composite key is a combination of two or more columns in a table that can be used to uniquely identify record in the table.**

**6) What is stored prcedure ?**

* **is the prepared sql code and that can be saved, so code be reused again and again. This is used for when need to execute same sql again and again.**

**7) What is trigger ?**

* **It is a special type of stored procedure which is executed automatically when some event occurs.**

**8) What is aggregate functions in mysql ?**

* **Performs calculation with set of values and return single value. For example, count(), Max(), Min(), SUM()**

**9) What is mysql storage engine ?**

* **Storage engines are MySQL components that handle the SQL operations for different table types.**
* [**InnoDB**](https://dev.mysql.com/doc/refman/8.0/en/innodb-storage-engine.html) **is the default and most general-purpose storage engine, and Oracle recommends using it for tables except for specialized use cases.**
* **To determine which storage engines your server supports, use the** [**SHOW ENGINES**](https://dev.mysql.com/doc/refman/8.0/en/show-engines.html) **statement**

**10) Types of storage engines**

* **InnoDB**
  + **The default storage engine**
  + **It is transaction safe storage engine because it has commit, rollback and cash-recovery capabilities to protect user data.**
  + **It is row-level locking**
  + **It supports primary and foreign key features**
* **MyIsam**
  + **It follows table level locking so that it have limit to read/write workloads**
  + **So It is mostly used for read only or read – mostly workloads in web.**
  + **Mysam support primary key, but doesn’t support foreign key**
* **Memory**
  + **Contents of the memory storage engine stored in RAM instead of Disk**
  + **It is best for read-only caches or temporary work areas**
  + **Since it is stored in memry, It is vulnerable to power outage or hardware failure and is unsuitable for permanent data storage.**
  + **In fact, after a server restart, MEMORY tables will be recreated (because the definition file is stored on disk), but they will be empty. It is possible to re-populate them with a query using the --init-file server startup option.**

**11) Types of join in mysql ?**

* **Inner Join – Return the records which have matching values in both tables.**
* **Left Join – Return all the records from the left table, and matched records from the right table.**
* **Right Join – Return all the records from the right table, and mtached records from the left table.**
* **Full Join – Return all the records from left and right table, it doesn’t consider the value is matching between both tables.**

**11) Difference between Order By and Group By**

* **Order By – Sorts the records in ascending or descending by single or combination of columns.**
* **Group by – It is used with aggregate functions (sum, count, avg , max) to group the result set by one or more columns.**

**12) What is sql injection ?**

**Sql injection is the code injection technique. Inject sql code into entry field(form input) or excution.**

**For ex:**

**select \* from users where id = 5 => No problem it match the user id and retrieve the specific record.**

**In cash, enter id = 5 OR 1=1 instead of 5 as user id, It retrieves all the records**

**select \* from users wher id = 5 OR 1=1**

**Prevention:**

**Use prepare statement**

**what is Ajax ?**

**Tell about magento 2 project**

**Types of product types**

**Difference between Bundle and Grouped Products**

**Site performance**

**Difference between Custom attributes and Extension Attributes**

**What is the use of RecurringData.php ?**

**What is the use of RecurringSchema.php ?**

**Types of association available in cakephp 3 ?**

**How do use associattion in cakephp 3?**