- Also, E-commerce Businesses must ensure secure payment processing systems and comply with relevent card policy (Industry). - PCI standards.

PCI:

22 Feb 2024. E- Commerce:

Taxation And Jurisdictional Challenges:

(i) E- Commerce Transaction may occur from Cross National boundaries. making it challenging one to determine the appropriate tax rules and jurisdiction.

(ii) E- commerce business need to navigate the complexity of international tax regulations and ensure compliance with Applicable laws related to sales tax, value added tax, custom duties and several other relevant taxes.

(iii) failure of above mentioned rules. comply with tax laws. can result in legal and financial consequences. was handled by the region where E-Commerce business located.

(iv) Contractual Agreements: E-commerce transaction often involve the formation of legal contracts. between buyers and sellers. This contract is very essential to have a clear and Enforceable terms and conditions, refund policy, and other Disputed Events.

etc. This agreement is followed strictly under disputed conditions.

(v) Domain Name and Trademark Disputes: E-commerce businesses some time may encounter Domain name and Trade mark Disputes: where the domain Name registered by another party is similar to their trademark or business name.

The Domain Name dispution is mostly does not occur where as the trademark dispution is mostly found. which is handled by domain name standard body and trademark controlling body.

Intellectual property rights. (cont.)

22 Feb 2024. Web Technology:

<%@ Directive %>.

This provide metadata of jsp to web container.

lifecycle:

translation / compilation.

import:

↳ taglibrary:

↳ required clause

Set up output Buffering options.

import java.util.*;

what is JSP Directives: 3 प्रकार : page include आणि taglib. Page: info. प्रयत्न करणे, about scripting, content type buffersize etc.

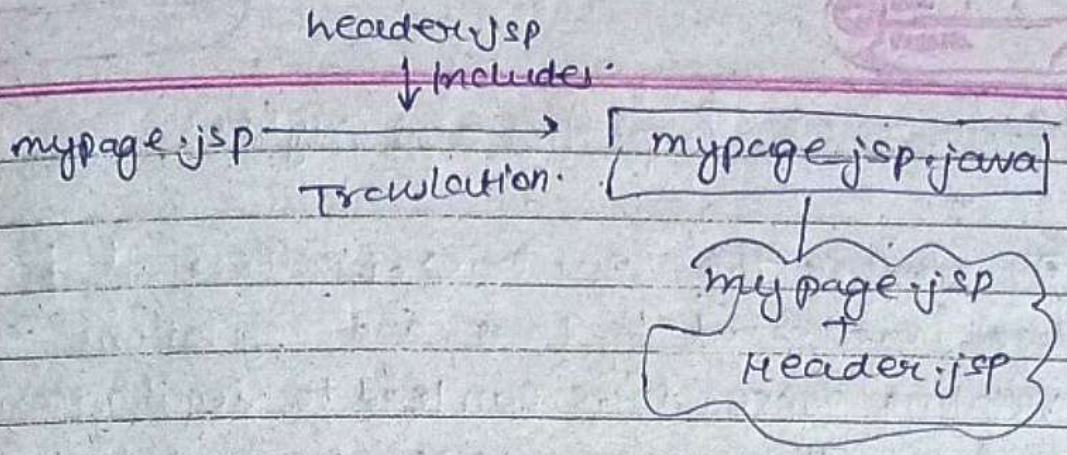
include: To include content from ext-files.

Taglib: import custom Tags.

<%@ directive attribute="value" %>.

- directive - The Type (page, taglib, include).
- attribute: behaviour to be set for directive to act upon.

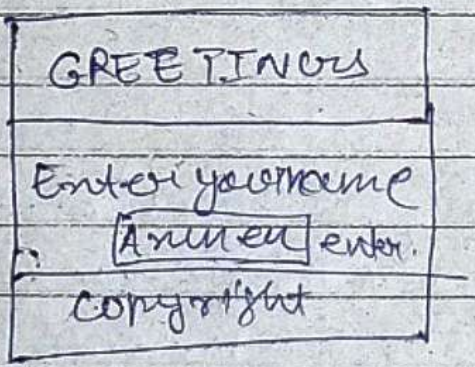
<%@ page attribute="value"
attribute="value2" %>



eg
<%@ include file="header.html" %>.

Demo: import errorpage, isErrorPage, Session. buffer.

Scenario welcome.jsp पर्याय username accept करा, error मे error page दर्शवि, अथवा, header.html, footer.html include करा।



Code

```
<style type="text/css">
    body, html{
        height:100%;
    }
</style>.

<body>.
    <div id="header" style="bg-color: blue height: 20%;
        <%@ include file="header.html" %>.
    </div>.
    <div id="content" style:
```

23 Feb 2024

Intellectual Properties and rights:

(i) In most of the countries intellectual property is ~~not~~ protected by laws and regulations and violating these laws can lead to legal action and penalty. The proper management and protection of intellectual property are very crucial for Individuals and companies to safeguard their ideas and maintain their competitive advantage.

Definition:

(i) Intellectual property refers to a category of legal rights, granted to individuals or companies or entities. for their original creations of mind or idea
^ के अधिकार पर : and general creation

Characteristics:

(i) Intellectual property includes a wide range of intangible assets such as innovations, ~~literary~~ literary, artistic work, artistic designs, symbols, logos, and brand name. used in E-commerce world.

(ii) Intellectual property rights are defined to encourage the creativity and innovation by providing creators with exclusive rights to their work.

Intellectual property rights also help to protect businesses from unfair competitions and ensure that consumers can trust the quality and authenticity of the goods and services. They give license or use goods or services.

Types of Intellectual Properties:

(i) Patents: This intellectual property grants an inventor the exclusive right to make, use and sell an invention for a certain period of time.

(ii) These are exclusive rights granted to inventors for their inventions which can include processes, machines or devices, components or compositions of invented objects, including designs.

(iii) Copyrights: This intellectual property protect the original and genuine works of authorship regarding books, music, s/w, films, etc.

(iii) Trademarks: This intellectual property protect the words, names, symbols and logos used by e-commerce business to identify and distinguish goods and services uniquely in e-commerce business

(iv) Trade secrets (contd.)

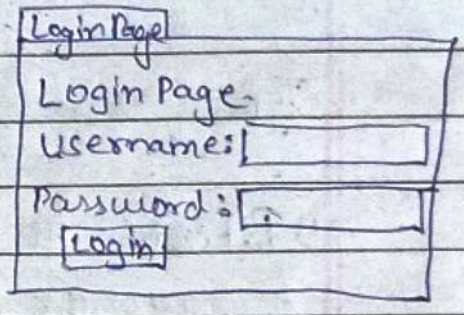
Create a login page either in loginpage in servlet or jsp.

(i) servlet.

(ii) JSP :

Sol: In servlet ~~html~~ html xml, Java

output




```
<!DOCTYPE html>.
<HTML>
<head>.
<title> Login Page In JSP </title>.
</head>.

<Body>.<form action="Servlet1.java" method="post">.
<b1> Login Page</h1>.
<br/>
User Name :
<input type="text" name="username">.<br/>
Password :
<input type="password" name="password">.
<br/>
<input type="Submit" value="login">.</form>
</body>.
</HTML>.
```

Servlet.

Dynmic web project → src → rt → new → servlet

Name: Servlet1.java ⓥ doget } add. → finish.
Next → Finish. ⓥ dopost }

servlet file

In the webapp (folder) → rt → new → xml file.
Name: web.xml.

```
<web-app>
<xml>
<servlet>
<servlet-name> Servlet1 </servlet-name>
<servlet-class> servlet1 </servlet-name>
</servlet>
<servlet-mapping>
<servlet-name> Servlet1 </servlet-name>
<servlet-class> servlet1 </servlet-class>
<Url-mapping> /servlet1 </servlet-mapping>
</servlet-mapping> </webapp>
</xml>
```

Controller:-

```
import javax.servlet.http.*;
public void doPost(HttpServletRequest req,
HTTpServletResponse res) {
    String User = "admin";
    String Password = "pass";
    printwriter out = res.getWriter();
String User1 = req.getParameter("Username");
String Pass1 = req.getParameter("password");
if(user.equals(user1) && password.equals(pass1))
{ out.println("<h2> Login! Success! </h2>
} else { out.println("<h2> Retry"); }
}
```

In JSP.

In web-app: index.jsp.

```
<!DOCTYPE HTML>.
<html>.
<head>.
<title> Login Page of JSP </title>.
</head>.

<% ! String user = "admin";.
     String password = "pass";

   void validate (String user-inp, String user-pass ){.
   - if(user.equals(user-inp) && password.equals-
                                    (user-pass)) {.
    Out.print(" The Login is Successful ");
   } else {.
    Out.print(" Retry-Login");
   }.

%>

<body>.
<h1> Login form in JSP </h1>.
<form>.
< username:
<input type=" text" name=" user-inp" > <br/>
```

password :

```
<input type="password"><br/>

<input type="submit" value="login"><br/>
</form>
</html>
```

27.Feb2024 E-Commerce:

Trade Secrets:

(i) Trade secrets is a confidential information of a company or a business that gives a competitive advantage over other company such as customer lists, manufacturing processes details. and its related formulas regarding the uniqueness about the products. These secrets makes an extra ability about that product for that company

(ii) Industrial design. This property also belongs to intellectual property rights that protect the visual design of a industry standard product including its unique and attractive shape, internal configuration, looking pattern or visualisation etc.

(iii) This feature prepares a new place for the industry regarding their uniqueness.

or application of
use of intellectual property rights.

(i) Intellectual property rights gives the legal rights to protect the creation or innovation of the uniqueness concept or mind.

(ii) The purpose of intellectual property laws is to encourage, innovation and creativity.

of users (Developer, Inventor, creator, researcher) etc. by providing the exclusive legal rights to use, distributed, sell, and get benefit from their creations for a given amount/ period of time.

8.
Visions and Forces behind the E-commerce:
for Growth (visions / factors for growth of E-commerce).

(i) The growth of E-commerce means the buying and the selling of goods and services over the Internet or Electronic networks, has been remarkable over the past times. The growth of
(ii) E-commerce is expected to continue as technology continues to evolve, more businesses go online and consumers increasingly prefer the convinience and accessibility of online shopping.

(iii) The vision and focus behind E-commerce are driven by technological advancements, changing consumer behaviours and evolving business strategies.

(iv) There are several key factors that are responsible for growth in E-commerce are as follows:

:-

(a) Invention of Internet.
(b) range of products.

(a) Internet का Global होना। Global connectivity all global Internet connection. Due to widespread of Internet access, E-Commerce businesses expand their reach beyond local markets. Beyon sell ~~and sell~~ to a global customer base.

Due to Internet accessibility cross-border E-commerce have become more accessible also.
without the concept of Internet Penetration the existance and exploration of Ecommerce business is not possible. The existance of good quality of Internet makes E-commerce bustness easier global reach.

(b) Mobile devices. (M-Commerce): The proliferation of smart phones and tablets. Mobile devices. have made it more convinient for people to solop online anytime anywhere.
Mobile apps and responsive websites. have also further facilitated mobile E-commerce.

(c) The widespread adaption of smart phones and other mobile devices. has increased the growth of E-Commerce business too much.

by enabling consumers to ~~solve~~ shop. on the go from anywhere using mobile apps, the Internet and responsive websites.

by online payment systems for digital and secure payments.

② Secure Digital payments system (Online Payment System):

- The development and adoption of secure online payments methods and digital wallets. have boosted the consumer confidence in making online transactions.

- The adoption of secured payment gateways, encryption Technologies and fraud detection measures ensures the security and integrity of e-commerce transactions. making Trust and confidence among consumers. and finally boosting / boosted the growth of e-commerce.

- Improved security: The enhanced security measures during online transactions including. encryption, two factor authentication, otp verification through sms. from otp verification through email, secure link. verification through email, other validation and authentication. methods. etc increase ~~in field~~ the trust of the

Customers in online shopping:

- Easier website development:
  - At present time user friendly website development with a large number of tools and E-Commerce platforms support the growth of E-Commerce business. There are several tools available in the market such as Shopify, woocommerce, magento, that helps to develop e-commerce specific websites very easily to handle user interaction, online order placement, sales and delivery, stock management, online payment processing etc.

(contd.).

28.02.2024.

- Dynamic Market place:
  (i) Dynamic market place supplies a variety of products via different sellers of different regions to reach a vast audience of buyers.
  (ii) These market places offer a diverse selection of products, competetive pricing and streamline logistics. making it easier for any locations customers.

(iii) Customer reviews and recommendation.
The growth of E-Commerce also depends on customer reviews, at some extent. This helps in deciding the customers to buy or reject the products by studying.

the reviews and recommendation. This reviews and recommendation influenced the customer to take purchase decisions and build trust among online shoppers.

(iv) convinience and accersibility. The E-commerce business provides the convinience of fast online shopping with features like one click purchasing and fast shipping options. attached more customers to the online business.

(v) E-commerce business also offers convinience regarding accersibility to consumers to deliver the products at their given locations anywhere in the region.

(vi) This feature makes a belief to the customer regarding accersibility.

(vii) with E-commerce platforms consumers can access a vast variety of products and services with just a few click. eleminating the need for purchasing the products from physical outlets and reduce the purchasing time.

(viii) Subscription Services: At present time subscription based E-commerce models have gained popularity because of various offers and advantages to the customers.

regarding products purchasing and offering services. delivers the products and provides services. on priority basis.

(ix) Emerging Technologies such as augmented reality (AR). and virtual Reality (VR) are being used to enhance the online shopping experience and push the customers for online purchasing.

(x) Omni-channel (Multiple) Integration: E-commerce companies are using omni-channel connection with related strategies. including online stores, mobile apps, social media platforms, brick and mortar stores and virtual assistants. Omnichannel facility helps to integrate the consumers to engage with several brands through their preffered channels. and facilitates cross channel enteractions. ---------- (Force Behind E-Comm.)

28. Feb 2024.

Q. What is java Bean, jsp action tag, types of jsp action tags, to use the JSP action tag.

Q What is Serverside Java Bean.

Java Beans is a class that store the details of world entities.

Employee → emp name, emp salary

Bean is a plain java class that has Fields, IV, or property, eg. employee name, salary

and methods for retriving and modifying the attributes like setEmployeeName(), setStudentAddress(). The methods are refered to as accessors or mutators.

Java Beans design convention.

A Java Bean component property can be read/write, read-only, or write-only.
The bean property needs to be accessible using public methods.

For each readable property, the bean must have a method as illustrated below for the attribute/retrive property value.

Syntax:

public Datatype get<propertyName>{.
return value; } // Returns the property value.

example;

Public int get Employeed{.
return empId; // returns the empidvalue.
}

For each writeable property, the bean must have a method as illustrated below.

example.

public set<propertyname>(Datatype newValue){.
property = value; //sets the newvalue into the property; }.

Syntax:

Public setEmployeeId(int newEmpId).
empId = newEmpId; //sets the new employee id to employeeId property
}.

Coding of Java Bean:

```
Public class User {
Private String userName;
Private String password;
public String getUserName() {
    return UserName;
}
public void setUserName(String userName) {
    this.UserName = UserName;
}
Public String getPassword() {
    return password;
}
public void setPassword (String password) {
    this.password = password;
}
}
```

```
public static void main (String [] args) {
User newuser1 = new User();
    newuser1.setUserName("Aayush");
    newuser1.setPassword("pass123");
    String user1pass = newuser1.getPassword();
System.out.println("The password is:" + user1pass);
} System.out.println("The name is:" + new User1.getUserName());
```

The bean properties username and password is set private

The web container maps the request attribute with the modified method names and triggers the appropriate methods for retrieving or setting the values:

Examples:
Request AttributeName: empId
Method Triggered: setEmpId(), getEmpId()

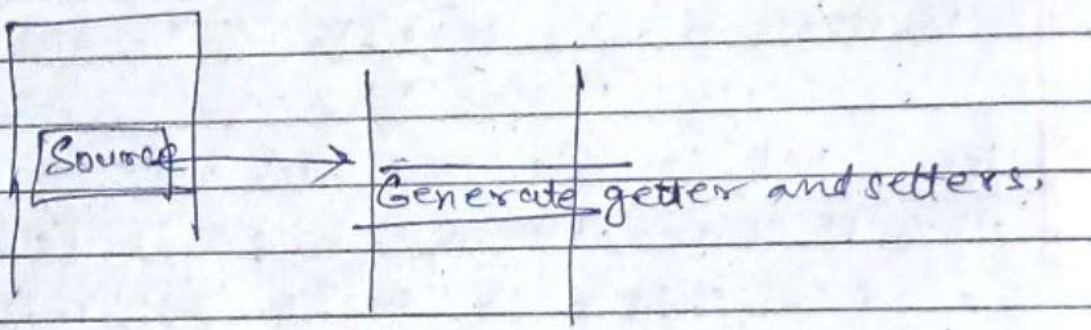
Note: web container automatically capitalizes the 1st character of the attribute name and concatenates "set" or "get" text for either setting or getting property values in bean.

How is this done?
This is done using reflection and introspection. Reflection and Introspection are java API used for finding the property methods of a class and invoking it dynamically.

Steps to make Beans class.

create new class named User.
Declare ~~Right~~ 2 properties for the class.
1. userName - type String.
2. Password - type string.

Step3 right click source.
and generate the getter and setter.



Need for Beans in JSP.

Beans are used to JSP for collectively storing some information, make the transfer of data between JSP's easier.

For eg: if you are handling with a registeration form all the registeration details can be loaded into a Registeration Bean and can be transported across other components as a single object.

How to set value to a Bean?

values can be set to the bean using the setter method.

userBean.setName(request.getParameter("name"));

Reads the parameter name from the request and sets it to the property name in user bean.

How to read values from a bean?

values can be retrived from a bean using getter method.

String userName = userBean.getName();

Reads the property value name from the bean and assigns it to a variable.

29 · Feb 2024 E-Commerce:

E-commerce opportunities for Industry:

At present time E-Commerce opportunities are vast and can be widespread in almost all type of industry. As technology continues to advance new opportunities and business models are constantly emerging, making it an exciting time for businesses to explore E-commerce possibilities.

E-commerce has revolutionised the way business operate and has created numerous opportunities for various industries. These are -

(i) Retail Industry: In retail industry an E-commerce business also have the facilities to buy one-or-more products or items by selecting multiple ones. This is similar as traditional retailers.

(ii) Electronics and Technology industry: In this industry E-commerce sells a variety of consumer electronics and gadgets, online to the customer at ~~there~~ their given location. easily and safely.

(iii) Fashion Industry: An E-commerce business also sells a wide variety of fashion products online to a global customer by offering several offers with customization options specially for clothing and accessories.

(iv) Food and Grocery: This industry also use online E-commerce business to supply groceries to customer homes. The meal delivery is also performed by E-commerce business at the desired location.

(v) Healthcare and pharmaceuticals industries, in modern time a large number of customers use online medicines and services supply. at their home addresses.
It includes different types of medicines (even rarely available medicines) along with various types of medical Testing. with therapatic treatment.

(vi) Tour and Travel Industry
This industry also uses the concept of E-commerce business in which users booked flight, hotels, vehicals etc. for a vacation package.

(vii) home and furniture industry.
(ix) entertainment Industry.

Web Technology: JSP Bean and JSP Actions.
login.jsp, success.jsp, user.java (userbeanclass).

29.Feb 2024

JSP action are set of predefined tags i.e provided by JSP container. to performing common task, thus reduce java code

some common tasks are:
instantiate java beans ~~ps~~ object, setting values to beans
→ Reading values from beans, forward the request to another resource and including another resource.

jsp: action-name attribute="value"/>
where
action-name: specifies the name of the action to be performed
attribute: specify the action tags.
<jsp:include/forward/use beans/setproperty/
getProperty/jsp:param.

used for dynamically including the pages
includes the output of included page during run time.
contents of the page are not included only response is included

homepage.jsp
translated to → homepage_jsp.java → footer.java.
homepage.java
by web container.

Homepage requested by JSP file.

Syntax: <jsp:include page="PageName"/>.
eg <jsp:include page="mypage.jsp">.

04-Mar-24

Payment Gateway System

- Payment gateways are one of the major components of e-commerce business providing a secure & efficient way to transmit digital money during the booking of a purchasing order.

- A payment gateway is a technology or platform that enables merchants to accept electronic payments securely using internet in e-commerce business.

- Normally, a payment gateway is a H/W application that allows merchants to securely accept & process electronic payments from customers for goods & services.

4-Mar-24

↳ Characteristics of payment Gateway System :-

- Payment gateway systems act as an intermediary between the merchant website or application & the financial institution (Bank) that process the payment. Here, the customers involve indirectly.

- Payment gateway acts as a bridge to transfer the funds or electronic money between merchants & users.

- Payment gateway systems use encryption & other security measures to protect digital transmission along with sensitive payment information. It also prevents from several fraud like activities.

- They also typically offer some additional features such as- fraud detection & prevention, charge back management, recurring billing etc.

- Payment gateways can be integrated into a variety of e-commerce platforms & s/w making it easy for merchants to accept payments from customers around the world.

- It is important for merchants to carefully select a payment gateway provider that meet their business needs & offers the necessary security features along with required regulations.

- Most of the payment systems support various payment method including credit cards, debit cards, digital wallets, several types of bank transfer etc.

4 march 2024:

E-commerce.

components of payment Gateway System / Structure:

The structure of a payment gateway system is designed to provide a secure and efficient way for merchants to accept electronic payments and for customers to make purchase online.

The structure of a payment gateway can vary depending on the specific payment Gateway provider but most of the payment gateway system have the following basic structure:

☑ Merchant Interface: Merchant Interface is the front where: the merchant can access and manage their account and view transaction details, reports and analytics.

☑ Here the merchant is: that selling goods or services and responsible for integrating the payment gateway into its websites.

☑ Component 02: Payment Processor:

☑ The payment processor is a financial institution that processes electronic payments on behalf of the merchants. Financial Institution: (Bank).

☑ The payment processor receives the payment information from the payment gateway and verifies the transaction details then transfer the funds from the customer account to the merchants account.

☑ The payment processor communicates with the customer banks or Credit card company to verify the payment Details and ensure that the transaction is authorised or not.

☑ Security System: The payment gateway system uses various types of security measures such as encryption and decryption. Technique, Tokenisation concept, Secured security protocols. etc. to protect sensitive

payment information and prevent fraud.

☑ (iv) component: API - Application Peregram Tiderface:
API for a payment gateway system is a set of protocols and tools that helps to integrate the payment gateway into their websites or apps. or point of sales system.
API: The API enables communication between the merchants website or system and the payment gateway.

☑ (v) component: Payment Gateway Provider:
It is a third-party service that provides the software application and infrastructure necessary to securely process electronic payments.

☑ The payment Gateway provider charges a fee for their services which can include transaction fees, setup fees and monthy charges.
The payment gateway provider support various payment system in their payment Gateway such as credit card, debit card, digital-wallets, bank transfers, etc.

This payment options may vary depending upon the payment gateway provider and merchants requirements.

. . . . . .

1000 ~~proje~~ java programes. 1000 Projects. Project on JSP: web Applica
Energy Billing system.

Heading: write Program using JSP without db connectivity.
Program using JSP with db connectivity: registeration.
form of electricity energy bill system.

```
Class.forName("orade.jdbc.driver.OracleDriver");
Connection con = DriverManager.getConnection("jdbc:orade:
                                    thin:@localhost:
                                    1521:xe",
"System", "iibm");
```

Then all no change as it is.

```
Statement st, st1.
ResultSet rs, rs1;
```

1000 projects.org/energy-billing-System-java-Project-with-code.html.

Netbeans : 8.02.

Win 64 JDK.8.
Netbeans.org.

Download last.

JSP set properties!

The set property action sets the properties of a bean that has been previously defined by the use bean action.

Syntax:

<jsp:useBean id="myNameOfClass" class="packageName" />
<jsp:setProperty name="myname" property="someproperty" value="somevalue" />

where
name: name should be same as the id value of use bean

property: the bean property (field name) for which the value is to be set. There should be an instance variable with the property name specified and access / mutator methods.

Value: the value to be set to the property.

The following option can be used to automatically set the value from a HTML form to a java bean using setProperty action

Option 1

<jsp:setProperty name="userBean" property="someProperty" />

E-commerce:

Working Process of Payment Gateway System:

(i) When a customer makes a purchase using online payment method on a meerchants website or apps; the payment Information is securely Transmitted from the customers device to the payment Gateway which then sends the information to the payment processor. Now the payment processor verifyes the transaction and with the help of financial institution or bank and finally transfer the funds after verification to the merchants account.

(ii) Payment Gateway processing Involves several steps that occur when a customer makes a payment using an electronic Payment method such as by Credit Card, by Debit Card, by digital wallet, by banks transfer etc.

(iii) There are following steps involved in online transaction or payment using payment gateway system. which are given as follows:

(a) Payment Initiation by the customer: In this process the customer begins the payment process by selecting suitable payment method and then entering information regarding payment method. such as card details, wallet address, bank information, etc. into the merchants website or apps.

(b) Information encryption and transmission: In this process the online payment Information given to the merchants website or apps is encrypted first and then transmitted securely from the customers device to the payment Gateway.

(c) Processing Through Payment Processor: In this process the received payment encrypted information is finally sents to the payments processor of the payment Gateway:

now the payment processor recieves the payment information and verifyes the transaction with the help of banks and confirm whether there are sufficient funds. available or not for transaction.

For this payment processor sends some queryes to the banks and after successful verification payment transaction is confirmed for the merchants website. Payment processor also verifyes the fraud transaction activities

(d) Verification of Payment Information:

(i) The incoming payment information from the payment Gateway is verified by payment processor by sending transac. data to the related banks. After successful verification, banks or financial institution sends banks the payment information to the payment Processor and then the funds is finally transmitted to the merchants website account.

(e) confirmation message to the merchant:

Once the payment is processed by the payment processor, the payment gateway sends a confirmation message to the merchant regarding purchase and further product delivery or dispatched process. may started.

(f) E market

6 Feb. : E-market.

(i) E-market stand for Electronic Market
(ii) E-market is also known as online market.
(iii) E-markets are online markets where goods, services, financial etc are bought and sold electronically through internet or other computer networks.

E-commerce की structure है।

Types of E-Market:

At present time E-markets have become increasingly prominent with the growth of E-commerce and Digital Technologies.
E-markets offer a convinience, Accessibility and a broader reach for buyers and sellers.
E-market have transformed various Industries and created a new opportunities for business and consumers.
The growth of E-markets continues to be influenced by advancement in Technology; use of mobile devices, online secure Payment System and global connectivity with fast internet.
Some common types of E-markets are available these days are as follows:-
Online auctions: (i) online auction platforms allow sellers to list items for bidding and buyers can place bids to purchase selected items from listing items.
Online stock exchange market. stock exchanges like the national stock exchange (NSE) of India, the New York Stock Exchange of America have digital counterparts where stocks and other financial instruments are Traded electronically.

Crypto currency Exchange: like binance (binance), Coinbance, Vajerex, Coinbcex, facilitate the Trading of digital currency such as bitcoin, ethereum,

Real Estate market place: It is also one of the example of E-market.

Online Real state market places allow users search for and purchase real state properties like lands, buildings, other related property on line classified advertising websites provide a platform for buying and selling various items or services. with different types of job listings.

(v) Digital contents : Different types of appstores or websites etc enable users to purchase or download digital contents such as Apps, games, music, e-books, videos, etc.

Peer to Peer Market Places:

P2P e-markets connect Individuals who want to buy and sell the product items directly with one another for eg. motorcycles and car sharing services.

Commodity Markets:

Some commodity markets such as those for precious metals and agricultural products have electronic Trading platforms where commodity are ~~buyed~~ bought and sold globally, Online Travelling and booking In this type e-market services such as booking. com allow users to book flights accomodations and several others, Travel related services.

Global Trade export and import system:

This online platforms or e-markets facilitate global trade by connecting buyers and sellers across borders.

Crowd funding Platforms : This online platforms allow users or creators to raise funds for their projects and products.

This is a public collection of digital money for developing some projects.