

Q-1[A]

Electronic

Commerce

1) Define B2B, C2C, E2C, ~~B2A~~

B2B → Businesses use the internet to sell goods or services to other businesses.

→ E-commerce is a business to business electronic commerce is the sale of goods or service between business via online sales portal.

C2C

→ Stands for customer to customer. C2C E-commerce is online platform.

→ C2C E-commerce is online platform where customers can buy and sell their products to each other - in this business model, E-commerce acts as intermediary that facilitates transactions between customer.

B2G → In this model the business house transact with the government over the Internet for example, similar to an individual consumer, business houses can also pay their taxes on the Internet.

G2C :- In this model the government transacts with an individual consumer.

for example, a government can enforce laws pertaining to tax payments on individual consumers over the Internet by using the e2c model.

Q1 Define :- E-commerce :-

- It is commonly known as electronic marketing.
- It consists of buying and selling goods and services over an electronic system such as the internet.
- E-commerce is the Purchasing, selling & exchanging goods and services over computer network or internet through which transactions or terms of sale are performed electronically.

(3) Differentiate traditional commerce vs E-commerce.

→ Traditional commerce :-

Buying and selling Person to Person.

→ It is difficult to maintain data on main train standards.

→ Directly interact through buyer and seller.

→ You can feel of clothes or any quality of product.

→ Transaction is manually / card /

→ Delivery at a time contact customer is there is no uniform platform.

In traditional commerce cost has to be increased because there may be distributor or wholesaler.

Q-1[b] Answer the following Question [12 marks]

1. → It takes a lot of time to complete a ~~foreign~~ soft.
- Limited Business Performance and Presence.
- credit card, cash, cheque etc.

E-commerce :-

- The commercial transaction of goods & services over the internet.
- Saves the time and money.
- Available all the time.
- Through electronic or digital mode.
- more Business Global Presence.
- credit card, cash transfer, etc.
- E-commerce is mostly concerned with buying and selling aspect of the business over internet.
- E-commerce is of narrow in scope.

Advantages :-

- There are several advantages of e-commerce for business owners who don't want to set up a Physical storefront.
- Thanks to e-commerce, you can build an affordable website and sell your products online.
- You can also drive traffic to your e-commerce store to reach a larger audience.
- Here's a full breakdown of some of the biggest e-commerce benefits.
- Popular examples of e-commerce revolve around buying and selling online.

* Disadvantages of E-commerce

→ Not that all physical retailers have a personal approach but I do know of several retailers who value human relationship. As a result shopping at these retail outlets is ~~more~~ satisfying than clicking on "Buy Now" and piling up products in virtual shopping carts is just not the same for me.

* E-commerce Delays Goods :-

→ Unless you are using a website to merely order a pizza online, e-commerce websites deliver take a lot longer to get the goods into your hands. Even with express shipping the earliest you get goods is "tomorrow".

→ ~~Many~~ many goods cannot be purchased online. Despite its many cannot buy online. most of these would be in the categories of "perishable" or "odd-sized". Think about it. You cannot order a popsicle.

→ Well, you could order both of them online, but consider the inconvenience. The popsicle would have to be transported in refrigerated trucks. unless the seller was willing to make a huge loss the cost of shipping that popsicle would far exceed the cost of the popsicle.

① Anyone can set up an E-commerce website.

→ We live in an era where online storefront providers giving you the ability to set up a e-commerce store within minutes. I have tried it, and it is possible to set up a basic store in under 10 minutes.

* (1) Security

- ⇒ The biggest drawback of E-commerce is the issues of security.
- ⇒ Fear of providing credit card information and risk identity are limits of the growth of e-commerce.
- ⇒ People fear to provide personal and financial information even different improvements have been made in relation to data encryption.

(2) Lack of privacy:

- ⇒ Many websites do not have high encryption for secure online transaction to protect online identity of customers.
- ⇒ Some websites illegally collects information of customers without their permission and they sell this information to marketing companies. These customers which is critical issues of customer's privacy.
- ⇒ Lack of privacy disappoint people to use internet for conducting commercial transaction.

(3) High Labour cost

(4) Legal Issues

(5) Technical Limitation

(6) Wide Technological cost

2) Explain future of E-commerce.

⇒ There are 5 futures of E-commerce

1) Social Media

2) Drone Delivery

3) App only Approach

4) Google's Buy Now Button

5) Artificial intelligence

1) Social Media

⇒ Majority of online buying decision are made on social media

⇒ Social network like Facebook, Instagram, Twitter, Google+ and LinkedIn, Pinterest etc. have become medium for easy long-in and purchase.

⇒ Client can stay more updated through post policy on this media.

⇒ Advertising and promotion on social media increased the chances of transaction success.

2) Drone Delivery:

⇒ Companies are working their way to less manpower as well as faster.

⇒ But nowadays marketing companies should start using drones for fast and accurate delivery process.

⇒ DGCA means director general of civil aviation now fast tracking process of issue guidelines

For the use of drone for civil aviation purpose in India. If everything goes as per the plan then India might become the first country in the world they allow the use of drone for civil purpose.

3) App only Approach:

- ⇒ Statistic suggest the future of internet ties in mobile.
- ⇒ Export says more than 1800 million people in India will use the internet by 2022 and 70% to 80% of them will access the web on mobile phones.
- ⇒ This will make all the main case for switching app models only. flipkart and Amazon have targeted smaller cities and towns.
- ⇒ flipkart and Amazon apps only approach in this place where most people don't own desktop computer and have limited access to broad band.

4) Google Buy Now Button:

- ⇒ Google is report working on its own "buy now" style button that would allow e-shopper search for products on google and purchase them a single click right through Google own search result page.
- ⇒ the button will display new sponsored search result under "Shop on Google" heading at the top of the page.

- ⇒ When user click on the google "buy now" they will be redirected to another google page that will allow select specific item details such as colour, and size then select a shipping route.
- ⇒ Google would then pass on order information including the customer's name and shipping address to details.

5 (A) Artificial Intelligence:

- ⇒ As the e-commerce get structured inventors (customers) looking for innovative use of technology are in on companies developing artificial intelligence solution.
- ⇒ E.g.: Jet airway was experimenting with one such solution devised by vestry.

Q2

3) Explain History and development of e-commerce in detail.

⇒ 1) Early Beginnings (1960s - 1980s):

- The concept of e-commerce can be traced back to the development of electronic data interchange (EDI) in the 1960s. EDI allows businesses to exchange documents and conduct transactions electronically.
- In the 1970s and 1980s, major advancements in telecommunications and computer technology laid the foundation for online commerce. However, e-commerce was primarily limited to business-to-business (B2B) transaction due to the high cost of technology and limited internet access.

2) Emergence of the internet (1990s)

- The 1990s marked a significant milestone with the emergence of the world wide web (WWW). The development of web browsers and internet infrastructure made it possible for businesses to establish an online presence and reach a global audience.
- In 1994, the first secure online transaction was conducted by Netscape paving the way for secure online payments and e-commerce platforms.

- Companies like Amazon and eBay were among the early pioneers of e-commerce, offering online marketplaces for consumers to buy and sell goods.

3) Dot.com Boom and Bust (Late 1990s - Early 2000s):

- The late 1990s saw the rapid growth of e-commerce businesses, leading to the dot-com boom. Many startups emerged fueled by investor enthusiasm and the promise of the internet economy.
- However, the Dot-com bubble burst in the early 2000s resulting in the collapse of many e-commerce companies. This period highlighted the challenges of building sustainable business models in the digital economy.

4) E-commerce Evolution (2000s - Present):

- Despite the Dot.com crash, e-commerce continued to evolve and grow steadily. Advancements in technology, including mobile devices and secure payment gateways, expanded the reach of online shopping.
- The rise of social media platforms and digital marketing transformed how businesses engage with consumers and promote their products online.

- the introduction of e-commerce platforms like Shopify and Magento made it easier for businesses of all sizes to set up online stores and sell products.
- The adoption of omnichannel retailing has blurred the lines between online and offline shopping as consumers expect seamless experiences across multiple channels.

5) Future trends and innovation:

- The future of e-commerce is expected to be shaped by emerging technologies such as Artificial Intelligence (AI), augmented reality (AR) and virtual reality (VR), which will enhance the online shopping experience.
- Personalization and customization will play a key role in e-commerce with businesses leveraging data analytics to tailor product recommendations and marketing messages to individual consumers.
- The growth of cross-border e-commerce will continue as businesses capitalize on global markets and consumers seek access to a wider range of products.
- Sustainability and ethical consumption are likely to become increasingly important considerations for e-commerce businesses and consumers alike, driving demand for eco-friendly and socially responsible products.

Q-2 [A] Answer the following. [05 marks]

1) Define: Micro payment, SETP.

⇒ Micro payments refer to small financial transaction typically conducted online for goods or services that are of low value. These transactions involve relatively small amounts of money, often less than dollar.

Used For

1) e-books

2) downloads

3) online games

Micro payments are often facilitated through payment methods such as digital wallets, prepaid cards, and mobile payment platforms.

SETP stand for Secure Electronic Transaction Protocol.

⇒ (SETP) is standard protocol developed by Visa and Mastercard in the 1990s.

2) Define: Firewall.

⇒ A firewall is a network security device or software application that monitors and controls incoming and outgoing network traffic based on predetermined security rules. Its primary function is to act as a barrier between a trusted internal network's

and untrusted external networks, such as the internet, to prevent unauthorized access and protect against various cyber threats.

- 1) Filtering
- 2) protection
- 3) Access control
- 4) Logging and monitoring
- 5) Network segmentation

Q-2 [B] Attempt the Following (Any two) [12 marks]

1) Explain various Models of E-commerce in detail.

⇒ there are 6 types of Models of E-commerce

1) B2B Businesses to Businesses

2) B2C Businesses to customer

3) C2B customer to Businesses

4) C2C customer to customer

5) B2G Businesses to Government

6) G2C Government to customer

1) B2B Businesses to Businesses

⇒ B2B e-commerce involves transaction between businesses (sellers and buyers). It encompasses the exchange of goods, services or information companies, government agencies, institutions or other organization.

Ex-

B2B e-commerce platforms include Alibaba, ThomasNet, and Ariba which facilitate transaction between suppliers, and corporate buyers.

2) B2C (Businesses to customer)

⇒ B2C e-commerce involves transactions between businesses (sellers) and individual consumers (buyers). It is the most well known and widely used e-commerce model.

encompassing online retail stores, digital marketplaces and direct to consumer brands.

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Websites like Amazon, eBay, Walmart, and Apple's online store are prominent examples of B2C e-commerce platforms.

3) C2B (Customer to Business)

⇒ C2B e-commerce involves transaction where individual consumers (sellers) offer goods or services or expertise to businesses (buyers). It represents a reversal of the traditional business-consumer relationship, where consumers monetize their skills, talents or assets by providing value to businesses.

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Platforms like Upwork, Fiverr, and 99designs enable freelancers, gig workers, influencers or content creators to offer their services, expertise or creative work to businesses seeking specific skills or solutions.

4) C2C (Customer to Customer)

⇒ C2C e-commerce involves transactions between individual consumer (sellers and buyers). It enables consumer to sell goods or services directly to other consumers through online marketplaces or peer-to-peer platforms.

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Websites like OLX, eBay, Craigslist and Facebook

Marketplace allow individuals to buy and sell used or second-hand items, rent properties, offer services, or exchange goods with other consumers.

5) B2G (Businesses to Government)

⇒ B2G e-commerce involves transaction between businesses (sellers) and government agencies or public sector organization (buyers). It encompasses the procurement of goods, services or solutions required by government entities to fulfill their operational or regulatory obligations.

6) G2C (Government to customer)

⇒ The G2C model of e-commerce involves transactions and interactions between government agencies or public sector organizations and individual citizens (consumers). It encompasses various online services, information dissemination and citizen engagement initiatives facilitated by government entities to provide public services, address citizen needs, and promote civic participation.

2] Explain Driving Forces of E-commerce in detail.

⇒ 1] Technological Advancements:

⇒ Technological advancements play a significant role in driving e-commerce growth. Innovations in internet infrastructure, mobile technology, cloud computing and digital payment systems have made it easier for businesses to establish online storefronts, reach global markets and offer seamless shopping experiences to customers.

⇒ Emerging technologies such as artificial intelligence (AI), machine learning, augmented reality (AR), virtual reality (VR) and internet of things (IoT) are transforming e-commerce by enabling predictive recommendations.

2] Mobile commerce (m-commerce):

Digital convergence:

⇒ the digital change has made it possible for digital devices to communicate with another. the internet's massive growth during the past decades - a creation of market forces will continue steady increase in computer power and decrease cost mode navigation on the internet.

3) Market and Economic pressures

(1) Strong competition: Now competitions the part of any business and companies are tools of recent days, which is adopted by the companies.

(2) Global Economy: In present scenario world becomes a global village and there are standard patterns in market for business so every country must follow these norms. There is huge gap between the growth rate of developed and developing nation. so more and more developed nations are investing in every part of world.

(3) Extremely low labour cost in some countries
→ now this is the common feature of business that companies are having manufacturing units in one area of the world and the same products is marketed in other part of the world.

(4) Frequent changes in market demands:
As we discussed above that the age of technology so any change which takes place in part of the world rapidly affects every zone so e-commerce is the tool which is necessary to sustain in present fast changing world.

- (5) Increase Expectation of consumers :- The expectation of consumers about quality and services are very high so it works like driving force for e-commerce.
- (6) Awareness Among consumers :- Now consumers are well aware from print media and electronic media keep update the consumer about new products and their rates.
- [4] Societal And Environmental Pressures
- (1) Government Regulations : Every country have its own rules and regulations but now a days almost every country have well defined cyber laws which provides a safe environment for the e-commerce.
- (2) Reduction in Government Subsidies : Now world is very open, some countries provides lot of rebate, tax and other forms to do business. But some other countries reducing the sops for businesses.
- (3) Rapid political changes : whenever government changes in any country there are some changes in guidelines and policies towards the business. It is also work as driving force for the e-commerce.

Ox

- 3) Explain Electronic Data Inter-chang^e in detail.
⇒ Stands for "Electronic Data Inter-chang^e". EDI is a standardized method for transferring data between different computer systems or computer networks. It is commonly used for e-commerce purpose such as sending orders to warehouses tracking shipments and creating invoices.
- ⇒ Because many online retailers sell products that they do not physically stock it is important to have an easy way to transfer order information to the locations where the goods are stored. EDI makes this possible. Some common EDI formats include X12 (U.S), TRADACOMS (UK) and EDIFACT (International).
- ⇒ EDI stands for Electronic Data Inter-chang^e. EDI has been developed by the United Nations / E.C.B working party in the 60s as a standard to simplify and standardize electronic trade document. It became more important with the internet boom in the mid - and late - nineties. However, EDI is not depending on any special technologies. The three essential elements of EDI

(1) An electronic transmission medium (e.g. RUPA, peer-to-peer networks or the internet).

(2) An agreed standard for structuring and formatting messages.

(3) A fast delivery of electronic documents from sender to receiver.

⇒ EDI is a concept to transform specific content e.g. invoices, delivery notes, purchase orders and other trade documents into standardized content and back into specific content again.

* Example: goods movement of transports

out of Holloman's car has no format

⇒ The concept of EDI is comparable to the concept of Esperanto (the international language). Two speakers from different countries with different languages translate their native language into the standardized Esperanto language. Both parties are able to retranslate the Esperanto into their native language without knowledge of the foreign.

⇒ EDI does the same! Regardless of the nature information system of the one company (e.g. SAP) and information system of the partner (e.g. MS Dynamics). It is possible to interchange data between these systems by translating the native code of SAP into EDI-based code and then into native code of MS Dynamics.

Q-3 [A] Answer the Following [06 marks]

1) Define: E-cash.

- ⇒ Billing for goods and services that customers purchase is part of any business. traditional billing methods in the brick-and-mortar paradigm are costly and involve generating invoices, stuffing envelopes, buying and affixing postage to the envelopes and sending the invoices to the customers.
- ⇒ Overall, e-cash provides a convenient, secure and efficient means of conducting electronic transactions offering users greater flexibility and accessibility in managing their finances and participating in the digital economy.

2) Define: EFT

- ⇒ EFT stands for Electronic Funds Transfer.

⇒ It refers to the electronic exchange or transfer of money from one bank account to another either within the same financial institution or between different financial institutions. EFTs enable individuals, businesses and organizations to initiate and process various types of electronic transactions, including payments, transfers, deposits and

withdrawals, without the need for paper based checks or physical currency.

3) Define: E-Wallet.

An E-wallet, also known as a digital wallet or mobile wallet, is a virtual wallet that allows individuals to store, manage and transaction various forms of electronic currency payments cards and financial instruments securely on a digital device, such as a smartphone, tablet, or computer. E-wallets serve as digital equivalents of physical wallets, providing a convenient and secure means for users to make payments transfers and purchases electronically without the need for physical cash or payment cards.

(1) Phone pay wallet

(2) Paytm wallet

Q-3 [B] Attempt the following questions. [12 marks]

1) Explain credit card and Debit card; in detail.

(a) Credit card

=> A form of money (intant spending power) that provides both the capacity to buy goods and services (i.e. carry out transaction) and the capacity to borrow funds (i.e gain access to credit).

=> Credit cards are payment cards issued by a bank against a special purpose account associated with some form of installment based re-payment scheme or revolving credit.

=> This is also known as "pay later" method of payment. Diners club introduced the first credit card 1958 followed by American Express in 1966. There are two major organizations issuing 80% of the credit cards in the market today. They are Visa International and Mastercard. These companies are made up of a large number of member of member banks see above fig.

- ⇒ Credit cards is the most popular payment method used in internet shopping. The idea of credit card payment is to buy first and pay later. The cardholder can pay at the end of the statement cycle or they can pay interest on the outstanding balance.
- ⇒ There are many credit card-based electronic payment system (EPS) that have been developed to facilitate the purchase of goods and services over the internet such as Cyber cash, SET (Visa and Mastercard)
- [2] **DEBIT CARD**
- ⇒ An electronic card issued by a bank which allows bank clients access to their accounts to withdraw cash or pay for goods and services. This removes the need for bank clients to go to the bank to remove cash from their account as they can now just go to an ATM or pay electronically at merchant locations.

ATM = Automatic Teller Machine

- ⇒ This type of card as a form of payment also removes the need for checks as the debit card immediately transfers money from the clients account to the business accounts.
- ⇒ The major benefits to this type of card are convenience and security. Along with the convenience of accessing account funds at any time it also removes the hassles associated with having to write checks as payment like showing ID and associated fees.
- ⇒ Debit cards are also considered to be a safer form of payment as a code is required to access funds while checks can be easily stolen.

2] Explain payment gateways in detail.

A payment gateway is a technology solution that facilitates online transaction by securely transmitting payment information between a merchant's website or application and the payment processor or acquiring bank.

It serves as the intermediary that authenticates and processes payments made by customers for goods or services purchased online.

(1) Transaction initiation:

- When a customer initiates a purchase on an e-commerce website, such as adding items to their shopping cart and proceeding to checkout, the payment gateway comes into play.
- The payment gateway provides the interface through which customers enter their payment details such as credit card information, billing address and other relevant information required to complete the transaction.

(2) Encryption and security:

- Payment gateways employ encryption techniques to secure the transmission of sensitive payment information over the internet.

- Advanced security protocols, such as Secure Sockets Layer (SSL) or Transport Layer Security (TLS), encrypt the data exchanged between the customer's browser and the payment gateway to prevent unauthorized access or prevent unauthorized access or interception by third parties.

(3) Authorization and verification:

- Once the customer submits their payment details, the payment gateway sends this information to the respective payment processor or acquiring bank for authorization.
- The payment processor, or bank, verifies the validity of the payment details, checks for available funds or credit limit, and ensures that the transaction meets all security and fraud prevention criteria.

(4) Transaction processing:

- If the payment authorization is successful, the payment gateway communicates the approval message back to the merchant website or application.
- In cases where the authorization is declined or unsuccessful, the payment gateway notifies the merchant →

and the customer may be prompted to try a different payment method or resolve any issues with their payment details.

(5) Settlement and Funds Transfer:

- After the transaction is approved, the payment gateway facilitates the settlement process, which involves transferring the funds from the customer's account to the merchant's account.

(6) Reporting and Reconciliation:

Payment gateways often provide merchants with access to reporting tools and dashboards that allow them to track transaction activity, monitor sales performance, and reconcile payments.

Merchants can review transaction details, generate reports, and reconcile financial data to ensure accuracy and transparency in their e-commerce operations.

O2

3) Explain different kinds of cybercrime in detail.

⇒ Cybercrime encompasses a wide range of illegal activities conducted over the internet or through computer networks. These crimes exploit vulnerabilities in computer systems, networks and digital devices to steal sensitive information, commit fraud, disrupt services and cause harm to individuals, businesses and governments.

- (1) Identity Theft:
- Identity theft involves stealing someone's personal or financial information, such as social security numbers, credit card numbers, or login credentials, to impersonate them or commit fraud.
 - Cybercriminals use various methods such as phishing emails, malware and data breaches, to obtain sensitive information and exploit it for financial gain or other malicious purposes.

(2) Phishing and social Engineering:

- Phishing is a fraudulent technique used to trick individuals into divulging sensitive information such as passwords, usernames, or credit card details.

- Social engineering involves manipulating people into disclosing confidential information or performing actions that compromise security often through deception, manipulation, or impersonation.

(3) Malware Attacks:

- Malware, short for malicious software refers to software designed to disrupt damage or gain unauthorized access to computers systems or networks.
- Common types of malware include viruses, worms, trojans, ransomware, spyware and adware, which can infect devices through email attachments.

(4) Ransomware:

- Ransomware is a type of malware that encrypts files or locks computer systems rendering them inaccessible to users. Cybercriminals demand a ransom payment usually encrypted using a key to decrypt the files or restore access to the affected system.
- Ransomware attacks often target individuals, businesses, or organizations disrupting operations and causing financial losses or data breaches.

(5) Data Breaches:

- Data breaches involve unauthorized access to sensitive information, such as personal data, financial records, or intellectual property stored in databases or computer systems.

(6) Cyber Espionage:

- Cyber espionage refers to the theft of confidential or classified information from governments, businesses, or organizations for political, economic, or strategic purposes.

(7) Cyberbullying and online Harassment:

- Cyberbullying involves using digital platforms such as social media messaging apps or online forums to harass individuals or communities.

(8) Financial Fraud and cyber Fraud:

- Financial Fraud encompasses various schemes and scams aimed at deceiving individuals or organizations to obtain money. Financial assets unlawfully.

- Cyber Fraud includes online scams, investment fraud, credit card fraud, and wire transfer fraud perpetrated through the internet or electronic

Q-4[A] Answer the following [0.5 marks].

1) Define : LAN, WAN. (b) giving ex.

⇒ LAN (Local Area Network) A LAN is a

network that connects devices within a limited geographical area such as an office building, campus or single site. It enables local communication and resource sharing computers, servers, printers and other network devices.

• WAN (Wide Area Network) A WAN is a

network that spans a large geographical area, connecting multiple LANs or other networks across different locations. It enables long-distance communication and data exchange between geographically dispersed sites, such as branch offices

2) Remote locations, or even globally distributed entities. WAN rely on telecommunication infrastructure such as

fised lines, fiber-optic cables, and satellite links to connect distant locations and facilitate communication between interconnected networks.

2) Define: Intranet and Extranet.

(1) **Intranet:** An intranet is a private network that functions similarly to the internet but is accessible only to authorized users within a specific organization or company. It facilitates internal communication, collaboration, and information sharing among employees by providing access to company resources, documents, application resources, and databases.

(2) **Extranet:** An extranet is a controlled extension of an organization's intranet that allows authorized external users such as customers, partners, suppliers, or vendors to access specific resources or services over the internet. It provides a secure and restricted environment for external parties to interact with the organization's system.

Q-4[B] Attempt the following (any two) [12 marks]

- 1] Explain virtual private network in detail.
- => Virtual private network is a type of private network that uses public telecommunication stuff such as the Internet or leased lines to communicate information between locations.
- => Became popular as more employees worked in remote locations.
- => Terminology to understand how VPN's work - it has to do with data being sent between locations by encrypting data.
- => VPN stands for "virtual private network" or "virtual private networking". A VPN is a private network in the sense that it carries controlled information protected by various security mechanisms between known parties.
- => VPN are only "virtually" private, however because this data actually travels over shared public networks instead of fully dedicated private connection.

- ⇒ Different solutions are available to make communication over internet safe, secure and it can also ensure desired grade of quality of service.
- ⇒ These solutions are known as VPN solutions.
- ⇒ Different protocols like L2TP, PPTP, IPsec etc are available to provide VPN solutions to customers.
- ⇒ These protocols take care of data authenticity, data integrity, and if required data - confidentiality.

Brief overview of How it works

- ⇒ Two connections - one is made to the internet and the second is made to the VPN.
- ⇒ Datagrams - contains data destination and source information.
- ⇒ Firewalls - VPN allow authorized users to pass through the firewalls.
- ⇒ Protocols - Protocols create the VPN tunnels

Four Protocols used in VPN

- (1) PPTP - Point - To - Point tunneling protocol.
- (2) L2TP - Layer 2 tunneling protocol.
- (3) IPsec - Internet protocol security.
- (4) SSTP - Secure socket tunneling protocol.

2) What is M-commerce? Explain Advantages and Limitations of it.

⇒ M-commerce is electronic commerce which occurs on mobile device. It is a term that was initially introduced in 1998 by Kevin Duffey during the launch of the Global Mobile Commerce Forum. Although it was an original reference to using personal digital assistants and mobile phones to purchase goods or services online, it has evolved into a term that involves buying or selling goods and services with any wireless handheld device.

* Advantages of M-commerce

- ⇒ (1) Convenience
- (2) Flexible Accessibility
- (3) Easy connectivity
- (4) Personalization
- (5) Time Efficient

(1) Convenience: With just a few clicks on mobile device customer can already do shopping, banking, download media file and more than that.

⇒ M-commerce also benefit retailers by many of their outstanding features compare with response website and mobile site.

(2) Flexible Accessibility: user can be accessible via a mobile device at the same time be accessible online too through login on to various mobile message and other networking platforms.

=> on the other hand the user may also select not be accessible shutting down at time can be good think.

(3) Easy connectivity: As long as the network signal is available mobile device can connect and do commerce transaction not only mobile to mobile but also mobile to other device no need for modem or wi-fi connectivity setup.

(4) Personalization: Each mobile device is usually dedicated to a specific user so that it is personal.

=> user can do whatever they want with their handle modify the wallpaper change view setting or modify contact information as you set e-mails or e-payments.

(5) Time Efficient: Doing M-commerce transaction do not require the user to plug anything like personal computer or wait for the laptop to load.

* Disadvantages of M-commerce

- 1) Smart phone limitation
- 2) Habituate
- 3) Risk Factor
- 4) connectivity

(1) Smart phone limitation : Mobile has no big screen like desktop or laptop so some time user tried to navigate more to chose just one item from thousand it affect shopping rate.

(2) Habituate : Every new technology has some problem at the starting phase here m-commerce is new application so some time people avoid to change which are rapidly changing we habituate to buy product from e-commerce.

(3) Risk factor : Each business has its own risk same mobile commerce is the growing field and a lot of investment in this field become risky because technology changes day to day more over their less security in the wireless network.

(4) connectivity : Mobile commerce needs high speed connectivity of 3G/4G otherwise it is become for the user to go through entire product purchase process.

O2

3] Explain Ethical issues in E-commerce.

1) Information Rights

2) Property Rights

3) Governance

4) Public safety and welfare.

1) Information Rights:

=> What rights do they have in their own personal information in a public market place or in their private homes? When internet technology makes information collection so fast and efficient.

2) Property Rights:

=> How can traditional brain property rights be enforced in an internet? World wide perfect copies of protected works can be made and easily distributed worldwide.

(3) Governance:

=> Should the internet and e-commerce be subject to public laws and if so what law making bodies have jurisdiction states or an international?

(4) Public safety And welfare:

- => Government should be responsible for ensuring that what efforts should be undertaken to ensure equal increase of internet and e-commerce channels and access to internet in schools, colleges.
- => Threats to public safety and welfare in certain online engagements (connectivity) and activities.

(5) Privacy and Data protection:

- E-commerce platforms collect vast amounts of personal data from customers, including their names, addresses, payment details, browsing history and purchase behaviour. Ethical concerns arise regarding the protection of this sensitive information from unauthorized access, misuse, or exploitation.
- Providing secure payment options protecting customer data, and offering reliable customer support contribute to building trust and fostering long-term relationship with customers.

or

Teacher's Sign.: _____