B.CS (FY)

E- Commerce and E- Contracts

This course will be available for the students from other faculty

GE/OE-2: E-Commerce and E-Contracts

Total Credits: 02   Total Contact Hours: 30 Hrs
Maximum Marks : 50

Learning Objectives of the Course:
1. To make the student understand the E-commerce and its application.
2. To make the student understand the Electronic Contract..

Course Outcomes (COs) :
After completion of the course, students will be able to –
1. Understand issues in e-commerce.
5. Understand E-Commerce and E-Business-Models and Approaches.

Module No.	Topics / actual contents of the syllabus	Contact Hours
I	Online Business: Definition of E-Commerce, Types of E-Commerce, Important issues in Global E-commerce. Laws relating to E-Commerce, Intellectual Property Rights, International Trade Law	15 Hrs
II	E-banking, Online Payment gateways, Electronic Cheques in India. Electronic Contract: Meaning, Types and Formation of e-contracts	15 Hrs

Reference Books:
1. Information Security and Cyber Laws, by Pankaj Sharma. S.K. Kataria & Sons
2. Fundamentals of Cyber Security, by Bhushan, Rathore, Jamshed, BPB
3. Cyber-security for Beginners, by Raef Meeuwisse. Cyber Simplicity Ltd
4. A Handbook of E-commerce, by Nidhi Dhawan, Sun India Publications
5. E-Commerce in India: Economic and Legal Perspectives, Pralok Gupta, Sage Publications India Pvt. Ltd.

UNIT - 1

Online Business

What is Online Business?

An **online business** is a business that **operates mainly through the internet**. In an online business, products or services are promoted, sold, delivered, and sometimes even supported using digital platforms such as websites, mobile apps, or social media.

Unlike traditional businesses that need a physical shop or office, online businesses can run **anytime and from anywhere** with an internet connection.

➢ How an Online Business Works

1. **Business Setup**
   The business creates a website, mobile app, or social media page.
2. **Product or Service Listing**
   Products (clothes, electronics, books) or services (freelancing, online teaching, consulting) are displayed online.
3. **Online Marketing**
   Customers are attracted through digital marketing such as social media, email, and search engines.
4. **Order & Payment**
   Customers place orders and make payments using online methods like credit cards, UPI, net banking, or digital wallets.
5. **Delivery / Service Execution**
   o Physical goods are delivered through courier services.
   o Digital products or services are delivered online (downloads, video calls, emails).
6. **Customer Support**
   Support is provided through chat, email, or phone.

➢ Advantage and Disadvantages of online business

E-business offers advantages like 24/7 global reach, lower overhead (no physical store), scalability, and data-driven personalization, but faces disadvantages such as security risks (fraud), intense competition, high reliance on technology (glitches), logistical complexities (shipping/returns), and a lack of personal customer interaction, leading to potential quality/trust issues and delayed gratification.

➢ Advantages of E-Business:

- **Global Reach:** Accesses customers worldwide, breaking geographical barriers.
- **24/7 Availability:** Operates around the clock, offering convenience to customers.
- **Lower Costs:** Reduces expenses on rent, staff, and utilities compared to physical stores.
- **Scalability**: Easier and cheaper to expand operations, add products, or enter new markets.
- **Personalization:** Uses data analytics for tailored marketing and customized customer experiences.
- **Data & Analytics:** Provides valuable insights into customer behavior for better decisions.
- **Efficiency:** Automates processes, simplifies inventory tracking, and allows for quick content updates.

➢ Disadvantages of E-Business:

- **Security Risks:** Vulnerable to online fraud, data breaches, and identity theft.
- **Intense Competition:** Competing with global marketplaces and numerous online sellers.
- **Lack of Personal Touch:** No face-to-face interaction, making some purchases (like clothes) harder.
- **Technical Dependency:** Reliant on stable internet and technology; glitches can halt sales.
- **Logistical Challenges:** Managing shipping, returns, and fulfillment can be complex and costly.
- **Quality & Trust:** Customers can't physically inspect products, leading to quality concerns.
- **Delayed Gratification:** Customers must wait for delivery, unlike instant in-store purchases.
  In essence, e-business offers vast opportunities for growth and cost savings but demands significant investment in technology, security, and customer engagement strategies to overcome inherent challenges.

➢ Definition of e-commerce

E-commerce (electronic commerce) is the online buying and selling of goods and services, involving the transfer of money and data over the internet for commercial transactions, from initial browsing to final delivery, enabling businesses to reach global customers 24/7 through platforms like websites and apps. It encompasses B2B, B2C, C2C, and C2B models and relies on technologies like online payment systems, inventory management, and digital marketing.

➤ Key aspects of e-commerce:

- **Transactions**: Facilitates the exchange of physical products, digital goods (like software), and services.

- **Platforms**: Uses websites, mobile apps, and social media for transactions.

- **Technology** : Integrates payment gateways, inventory systems, logistics, and internet marketing

- **Convenience**: Offers 24/7 availability and global reach, eliminating geographical barriers.

- **Types**: Includes Business-to-Consumer (B2C), Business-to-Business (B2B), Consumer-to-Consumer (C2C), and Consumer-to-Business (C2B).

➤ Types of E-Commerce

E-commerce types are categorized by participants (B2B, B2C, C2C, C2B, B2G, C2G) and models (Subscription, Dropshipping, Private Label), involving online transactions between businesses, consumers, or governments, with examples like **Amazon (B2C)** for retail, **Alibaba (B2B)** for wholesale, **eBay (C2C)** for peer-to-peer sales, and **Dollar Shave Club (Subscription)** for recurring deliveries, detailing how digital platforms facilitate commerce beyond traditional stores.

➤ By Participants

- **Business-to-Consumer (B2C):** Businesses sell directly to individual end-users.

- **Example:** Buying shoes from Nike's website or groceries from Walmart online.

- **Business-to-Business (B2B):** Businesses sell products/services to other businesses.

- **Example:** A software company (like Slack) selling to other companies, or Alibaba facilitating wholesale purchases for retailers.

- **Consumer-to-Consumer (C2C):** Individuals sell products to each other, often via a platform.
  - **Example:** Selling used goods on eBay or Etsy.
- **Consumer-to-Business (C2B):** Individuals offer services or products to businesses.
  - **Example:** Freelancers on Upwork or Fiverr selling skills, or influencers promoting brands.
- **Business-to-Government (B2G):** Companies sell to government agencies.
  - **Example:** A company providing IT services or supplies to a government department.
- **Consumer-to-Government (C2G):** Consumers pay or interact with government services online.
  - **Example:** Paying taxes or renewing licenses via a government portal.

➢ By Business/Revenue Model

- **Dropshipping:** Online store sells products without holding inventory, relying on third-party suppliers for fulfillment.
  - **Example:** A Shopify store listing AliExpress products directly shipped to customers.
- **Subscription:** Customers pay recurring fees for regular access to products or services.
  - **Example:** Dollar Shave Club for blades, Netflix for streaming.
- **Private Label/White Label:** A brand sells products manufactured by a third party, putting its own label on them.
  - **Example:** A skincare brand selling creams made by a contract manufacturer.

- **Marketplace:** Platforms that connect multiple buyers and sellers (e.g., Amazon, eBay).

- **Social Commerce:** Buying/selling directly through social media platforms (e.g., Instagram Shopping).

- **Affiliate Marketing:** Businesses pay commissions to affiliates for driving sales or leads.

➢ important issues in global E-commerce

International e-commerce faces major hurdles in logistics (customs, shipping, returns), payments & currency (local methods, exchange rates), regulatory compliance (taxes like VAT/GST, data privacy laws like GDPR, IP rights), and cultural/language barriers (localization, customer service). Additionally, issues like cybersecurity, building trust, ensuring reliable infrastructure, and managing complex taxation and legal standards create significant challenges for global online businesses.

➢ Key International E-commerce Issues

- **Logistics & Supply Chain**:

  High costs, delays, customs clearance complexities, unreliable tracking, and difficult international returns.

- **Payments & Currency**:

  Managing diverse preferred payment methods (BNPL, digital wallets, cards) and fluctuating exchange rates.

- **Regulatory & Legal Compliance**:

  Navigating varied import/export rules, tariffs, VAT/GST, data protection (GDPR), and intellectual property laws.

- **Cultural & Language Barriers**:

  Adapting websites, marketing, and support to local languages, consumer behaviors, and cultural norms.

- **Cybersecurity & Fraud:**

  Protecting against financial fraud, phishing, malware, and securing cross-border transactions.

- **Trust & Consumer Protection**:

  Building consumer confidence across borders, handling disputes, and ensuring secure interactions.

- **Infrastructure & Access**:
  Disparities in internet access and digital literacy in developing markets.

➢ Common Solutions & Strategies

- **Logistics**: Partner with experienced global carriers, use automated customs tools, provide real-time tracking.
- **Payments**: Offer localized payment options and display prices in local currencies.
- **Compliance**: Research local regulations, use compliance software, or work with local experts.
- **Localization**: Adapt content, marketing, and customer service for specific markets.
- **Security**: Implement robust security measures and transparent data privacy policies.

➢ Laws relating to E-commerce

E-commerce law is a broad field covering legal frameworks for online transactions, focusing on consumer protection, data privacy, digital contracts, and cybersecurity, with key rules like India's IT Act 2000 and Consumer Protection (E-Commerce) Rules 2020 mandating

transparency (seller info, pricing, return policies), prohibiting unfair practices, and establishing grievance redressal for secure digital commerce, all aiming to build trust and legal predictability.

➤ Key Areas of E-commerce Law

- **Consumer Protection:**

  Ensuring fair practices, clear information (prices, origin, returns), and easy complaint resolution, preventing misleading ads or fake goods.

- **Data Privacy & Security:**

  Protecting user data (names, addresses, health info) through rules like COPPA (US) and ensuring businesses secure data and report breaches.

- **Digital Contracts & Signatures:**

  Recognizing electronic records and digital signatures as legally valid for enforceable agreements.

- **Platform Accountability:**

  Defining responsibilities for e-commerce platforms (intermediaries) for content and transactions, often with due diligence requirements.

- **Taxation & FDI:**
  Rules governing foreign investment and taxation of digital sales, as seen in India's FDI policies.

➤ Core Indian Laws & Rules

- **Information Technology Act, 2000 (IT Act):** The foundation, covering digital signatures, e-contracts, cyber crimes, and data protection.
- **Consumer Protection Act, 2019:** Broad consumer rights, establishing the CCPA for enforcement.

- **Consumer Protection (E-Commerce) Rules, 2020:** Specific obligations for platforms: display seller/product details, appoint grievance officers, ensure transparency.

➢ Intellectual property rights in E-commerce

Intellectual Property Rights (IPR) in e-commerce protect digital assets like websites, software, content (text, images, videos), brand names, logos, and algorithms using patents, copyrights, trademarks, and trade secrets to prevent piracy, counterfeiting, and unfair competition, crucial for brand value and online business survival by securing everything from core code and databases to the visual "look & feel" of online platforms. Key protections cover brand identifiers (trademarks), website appearance (industrial design), creative works (copyright), and confidential code/data (trade secrets).

➢ Key IPRs in E-Commerce

- **Trademarks:**

  Protect brand names, logos, product names, and domain names, preventing confusion about product origin.

- **Copyright:**

  Safeguards original content like product descriptions, photos, videos, music, software code (HTML, source code), and databases.

- **Patents:**

  Protect novel e-commerce systems, software, and business processes.

- **Trade Secrets:**

  Cover confidential data, algorithms, source code, user manuals, and technical information not publicly disclosed.

- **Industrial Designs:**

Protect the visual appearance of webpages, graphical user interfaces (GUIs), and graphic symbols.

➢ Why IPR is Critical for E-Commerce

- **Value Creation:**

  IP is often the core asset (e.g., software, digital content) being sold, making protection essential for profitability.

- **Prevents Piracy & Counterfeiting:**

  Safeguards against unauthorized copying, distribution, and sale of digital goods and fake products, which can destroy businesses.

- **Maintains Brand Value:**

  Protects brand reputation by preventing others from using similar marks or infringing on creative assets.

- **Encourages Innovation:**
  Provides incentives for businesses to invest in developing unique online platforms, software, and content.

➢ Enforcement in E-Commerce

- **Platform Mechanisms:**

  E-commerce sites offer internal tools (notification systems, IP protection programs) for rights holders to report infringement.

- **Legal Action:**

  Rights holders can pursue legal remedies for copyright infringement, trademark counterfeiting, and unfair competition.

- **Collaborative Tools:**
  AI and collaboration between platforms and IP owners help detect and prevent infringement more effectively.

➢ International Trade law for E-commerce

International trade law for e-commerce provides frameworks, primarily through UNCITRAL's Model Laws, establishing legal certainty for online transactions with principles like **functional equivalence** (electronic records treated like paper) and **technological neutrality**, covering contract formation, data messages, and data protection, while the WTO also works on e-commerce rules, addressing challenges like customs duties, cybersecurity, and consumer protection across borders.

Key International Frameworks

- **UNCITRAL Model Law on Electronic Commerce (MLEC) (1996):** A foundational text providing rules for electronic contracts, data message validity, and the time/place of dispatch/receipt, promoting non-discrimination and legal predictability.

- **UNCITRAL Model Law on Electronic Transferable Records (MLETR) (2017):** Extends MLEC principles to electronic versions of tradable documents like bills of lading.

- **WTO Joint Statement Initiative (JSI) on E-commerce:** A forum for negotiating rules on customs duties, data flows, consumer protection, and digital trade, aiming for a comprehensive agreement.

➢ Core Legal Principles & Concepts

- **Functional Equivalence:** Ensures electronic documents perform the same legal functions as paper ones (e.g., writing, signing).

- **Technological Neutrality:** Laws should not favor specific technologies, remaining adaptable to future advancements.

- **Non-Discrimination:** Electronic records shouldn't be disadvantaged compared to paper records.

Key Areas & Challenges

- **Data Protection & Privacy:** Businesses must comply with diverse national laws (like GDPR) for data collection, processing, and cross-border transfers, requiring robust security.

- **Customs & Taxation:** Applying duties on digital products and electronic transmissions remains complex (e.g., WTO moratorium).

- **Cybersecurity:** Protecting transactions and data from threats is crucial.

- **Consumer Protection:** Rules mandating transparency, fair practices, and effective grievance redressal (like India's E-Commerce Rules) are vital.

- **Dispute Resolution:** Establishing clear mechanisms for resolving cross-border e-commerce disputes.

National Implementations
Countries adapt these international principles into national laws, like India's IT Act, 2000, and its E-Commerce Rules, 2020, which govern digital signatures, electronic contracts, and consumer rights.

UNIT – II

E-banking

E-banking (electronic banking) and e-commerce (electronic commerce) are interconnected digital systems, where e-banking provides the secure financial infrastructure (online payments, transfers, account access) that powers e-commerce transactions, allowing consumers to buy goods/services online and businesses to manage payments seamlessly, reducing cash reliance and offering 24/7 convenience through internet/mobile apps for both consumers and merchants. E-banking is essentially the secure digital backbone for all online financial activities, including those in e-commerce.

How E-Banking Fuels E-Commerce

- **Payment Gateways:** E-banking enables online payment methods like credit/debit cards, UPI, NEFT/RTGS/IMPS, allowing instant, secure transactions for online purchases.

- **Digital Wallets:** Facilitates linking bank accounts to digital wallets (like PayPal, Google Pay) for quick checkout on e-commerce sites.

- **Account Management:** Consumers check balances, view statements, and manage funds digitally before and after purchases.

- **Security:** Features like OTPs, encryption, and user IDs ensure secure transactions, building trust in online shopping.

Key E-Banking Services in E-Commerce

- **Online Fund Transfers:** Moving money to pay sellers or suppliers.

- **Bill Payments:** Settling utility bills or subscriptions directly from bank portals.

- **Mobile Banking:** Managing finances on the go via apps, crucial for mobile e-commerce.

- **ATM & EFT:** ATMs for cash, Electronic Fund Transfers for business-to-business (B2B) e-commerce.

Benefits for E-Commerce

- **Convenience:** 24/7 access, no physical bank visits needed.

- **Speed:** Faster transaction processing, reducing checkout friction.

- **Global Reach:** Enables cross-border sales by facilitating international fund transfers.

- **Reduced Costs:** Lowers operational costs for banks and transaction fees for businesses.

➢ Online Payment gateways

An e-commerce payment gateway is a secure online service that authorizes and processes customer payments (cards, UPI, wallets) for online stores, acting as a virtual bridge between the merchant's website, the customer's bank, and the payment processor to facilitate safe fund transfers. It encrypts sensitive data, verifies transactions, and offers features like fraud detection, multiple payment methods, and analytics, making online checkout seamless and trustworthy. Popular examples include Stripe, PayPal, Razorpay, and Amazon Pay.

How it works

1. **Customer initiates payment**:

   A customer enters payment details (card number, UPI, etc.) on the e-commerce site.

2. **Encryption**:

   The gateway encrypts this sensitive data.

3. **Transmission**:

   The encrypted data is sent to the payment processor and then to the customer's bank/card network.

4. **Authorization**:

The bank checks for funds and validity, sending an approval or decline back.

5. **Confirmation**:
The gateway relays this response to the merchant's site, confirming the transaction to the customer.

Key features & benefits

- **Security**: Encrypts data, reducing fraud risk.
- **Multiple Payment Options**: Supports cards, UPI, digital wallets, net banking, etc.
- **Streamlined Checkout**: Faster, error-free processes reduce cart abandonment.
- **Advanced Tools**: Offers analytics, recurring payments, refunds, and international payments.
- **Trust**: Major gateways boost customer confidence.
Examples of providers

- Stripe, PayPal, Square, Braintree
- Amazon Pay, Razorpay, PhonePe (India), PayU

➢ Electronic cheques (e-cheques) in India

Electronic cheques (e-cheques) in India are digital versions of paper cheques, allowing online fund transfers directly from bank accounts via secure methods like digital signatures and the Automated Clearing House (ACH) network, offering faster processing, lower costs, and better security than physical cheques for convenient, paperless transactions, though implementation relies on infrastructure and digital adoption.

How E-Cheques Work

1. **Authorization**: The payer gives permission (via online form, call, etc.) for funds to be withdrawn.

2. **Information Collection**: The payee collects banking details and the authorized instruction.

3. **Processing**: The payee submits this info through a payment gateway, initiating an ACH transaction.

4. **Fund Transfer**: The payer's bank verifies and sends funds electronically to the payee's bank.

5. **Security**: Uses digital signatures and encryption for authenticity, replacing physical signatures and reducing fraud risk.

➢ Benefits in India

- **Convenience**: Make payments online without needing physical cheques.

- **Speed**: Faster processing than traditional paper cheques.

- **Cost-Effective**: Lower transaction fees and no postage costs.

- **Security**: Enhanced by digital signatures, encryption, and secure gateways.

- **Recurring Payments**: Ideal for subscriptions and memberships.

Key Considerations

- **Infrastructure**: Requires support from banks and payment processors for full adoption.

- **Acceptance**: Depends on merchants and businesses accepting e-cheques.

- **Legal Framework**: Aligns with traditional cheque laws but operates digitally, sometimes creating unique legal considerations.

➢ Electronic contract : Meaning , Types and Formation of e-contracts

An electronic contract (e-contract) is a legally binding agreement formed, negotiated, and signed in digital format,, eliminating the need for physical paper. These contracts, commonly used in e-commerce, are enforceable under laws like the IT Act (Section 10A in India), using methods such as email, web forms, or digital signatures. Key types include clickwrap, browsewrap, and shrinkwrap agreements.

Meaning of Electronic Contract
An e-contract is a contract modeled, specified, executed, and deployed by a software system. It represents a valid, legally binding agreement where parties (often geographically dispersed) offer and accept terms online, rather than in person.

➢ Types of E-Contracts

- **Clickwrap Agreements:** Users must click "I Agree" or "OK" to terms before using software or services.

- **Browsewrap Agreements:** Terms are accepted merely by browsing a website, with a link to terms typically at the bottom of the page.

- **Shrinkwrap Agreements:** Terms that are contained inside a product package, accepted by opening or using the product.

- **Electronic Data Interchange (EDI):** Used for B2B transactions to exchange structured documents electronically.

- **Email Contracts:** Agreements formed through the exchange of emails.

➤ Formation of E-Contracts in E-commerce

E-contracts are formed when the requirements of a valid contract (offer, acceptance, and consideration) are met electronically:

1. **Offer:** A seller displays goods/services online, specifying prices and terms.

2. **Acceptance:** A buyer accepts the offer by filling out a form, clicking "I Agree," or making a payment.

3. **Consideration:** The exchange of value (payment for goods/services).

4. **Consent & Authentication:** Verified via electronic signatures, OTPs, or digital certificates.

Legal Framework and Validity

- **Legality:** E-contracts are legally valid as long as they meet the essential elements of the Indian Contract Act, 1872.

- **IT Act 2000 (India):** Section 10A recognizes the validity of electronic contracts.

- **Admissibility:** Electronic records are admissible as evidence in court.

Benefits:

- **Speed and Convenience:** Instant execution and signing from anywhere.

- **Cost-Effective:** Eliminates printing and courier costs.

- **Storage:** Easier to store and retrieve digitally.

➤ Key Challenges:

- **Jurisdiction:** Determining which laws apply when parties are in different countries.

- **Security:** Risk of data breaches or unauthorized access.

- **Authentication:** Verifying the identity of the person signing.