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B.Com Honours | Semester II | Calicut University

# E-Business Strategies

Course Code: COM2MN110 • Module 3 Notes

# 1. Electronic Payment Systems: Gateways and Processes

An e-commerce transaction is incomplete without the secure transfer of funds over the internet. Electronic Payment Systems (EPS) represent the financial plumbing of e-business. This module covers Electronic Data Interchange (EDI), payment gateways and protocols, the role of Application Service Providers (ASPs), and the working of online credit card transactions.

## Electronic Data Interchange (EDI)

**EDI** is the computer-to-computer exchange of structured business documents (like purchase orders, invoices, and shipping details) in a standard electronic format between business partners. In B2B e-commerce, EDI eliminates manual paper handling, reduces data entry errors, and speeds up supply chain cycles.

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## Payment Gateways, Protocols, and ASPs

- **Payment Gateway:** A software service that encrypts and transmits transaction data from the customer's device to the acquiring bank, authorization networks, and merchant accounts.
- **Payment Protocols:** Security standards (e.g., SSL/TLS, 3D Secure, SET) that ensure data is encrypted during transmission.
- **Application Service Providers (ASPs):** Companies that host and manage payment processing software on their servers, allowing small e-tailers to accept payments without building complex infrastructure.

## Types of Electronic Payment Systems

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### Cards & Stored Value Systems

- **Credit/Debit Cards:** The most common online payment method. Transacted using secure gateway authentication.
- **Stored Value Systems:** Smart cards and prepaid digital wallets (Paytm, GPAY) where users load cash in advance.

### Electronic Checks & Accumulating Balance

- **Electronic Checks (e-Checks):** Digital versions of paper checks, processed using the ACH (Automated Clearing House) network.
- **Accumulating Balance:** Systems that collect small charges over time and bill the user periodically (e.g., mobile carrier billing, utility bills).

## Working of Online Credit Card Transactions

A standard credit card transaction completes in a matter of seconds through a structured process:

1. **Initiation:** The customer enters card details at checkout, which are encrypted and sent via a **Payment Gateway** to the merchant's bank (Acquirer).
2. **Authentication & Request:** The Acquirer routes the details through card networks (Visa, Mastercard) to the customer's bank (Issuer).
3. **Authorization:** The Issuer checks for sufficient funds and fraud indicators, sending an approval or decline code back through the network.
4. **Capture & Settlement:** Once approved, the merchant captures the funds, which are cleared and settled into the merchant's account within 2-3 business days.

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