

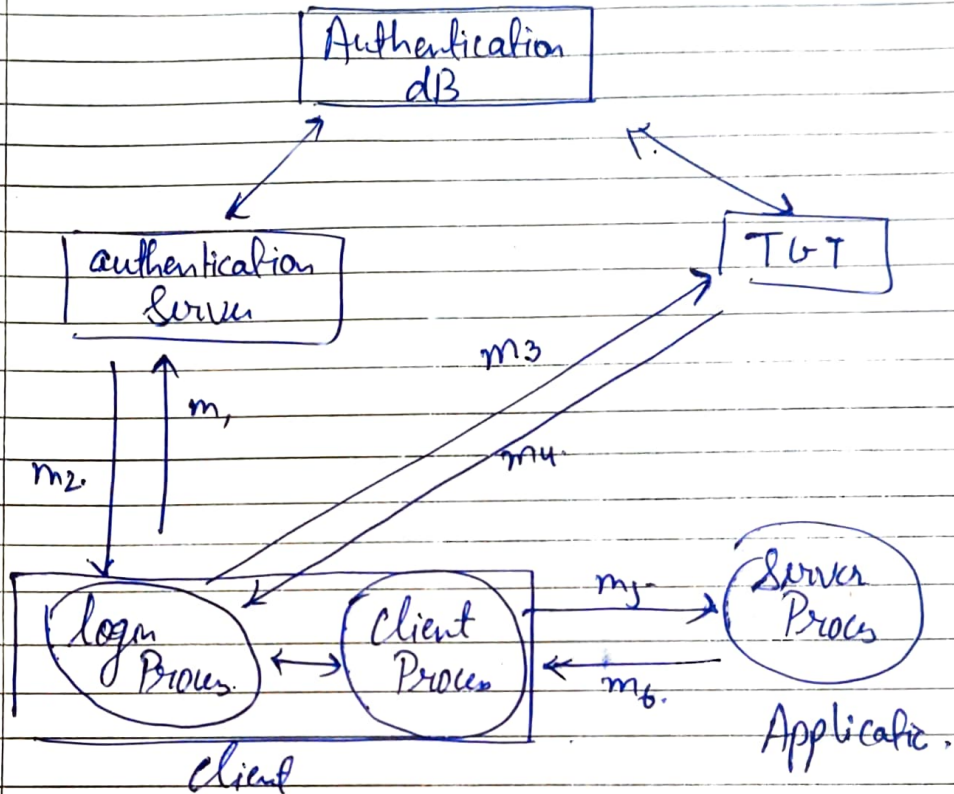


Name of the Subject: E-COMMERCE E-SEC Subject Code: IT-718

Seat No: IT076 Student ID: 18ITUBN116 Branch/Sem: IT-VII

Q2

(a).



$$m_1 = (ID_c, N_1)$$

$$m_2 = (2 = E((N_1, K_1, C_1), K_c))$$

$$C_1 = E_g((ID_c, ID_g, T_{s1}, T_{e1}, K_1), K_g)$$

$$m_3 = (ID_s, N_2, C_1, (3))$$

$$(3 = E((ID_c, T_1), K_1))$$

$$m_4 = (5 = E((N_2, K_2, C_4), K_1))$$

$$C_4 = E((ID_c, ID_s, T_{s2}, T_{e2}, K_2), K_5)$$

$$m_5 = (C_4, (6))$$

$$(6 = E((ID_c, T_2), K_2))$$



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$$m_b = C = E(T_3, K_2), T_3 = T_2 + 1$$

$ID_g$  = ~~Tgs~~ Ticket Granting Server Identifier.

$ID_c$  = Client Identifier.

$ID_s$  = Application Server Identifier.

$N_i$  = Nonce.

$K_c$  = Client Secret key.

$K_s$  = App. Server Secret key.

$K_g$  = Ticket granting Server Secret key.

$K_1$  = Ticket Granting Ticket Session Key.

$K_2$  = Service Granting Ticket Session Key.

$T_{si}$  = Starting Time of validity of Ticket.

$T_{ei}$  = Ending Time of validity of Ticket.

$T_i$  = Time Stamp.



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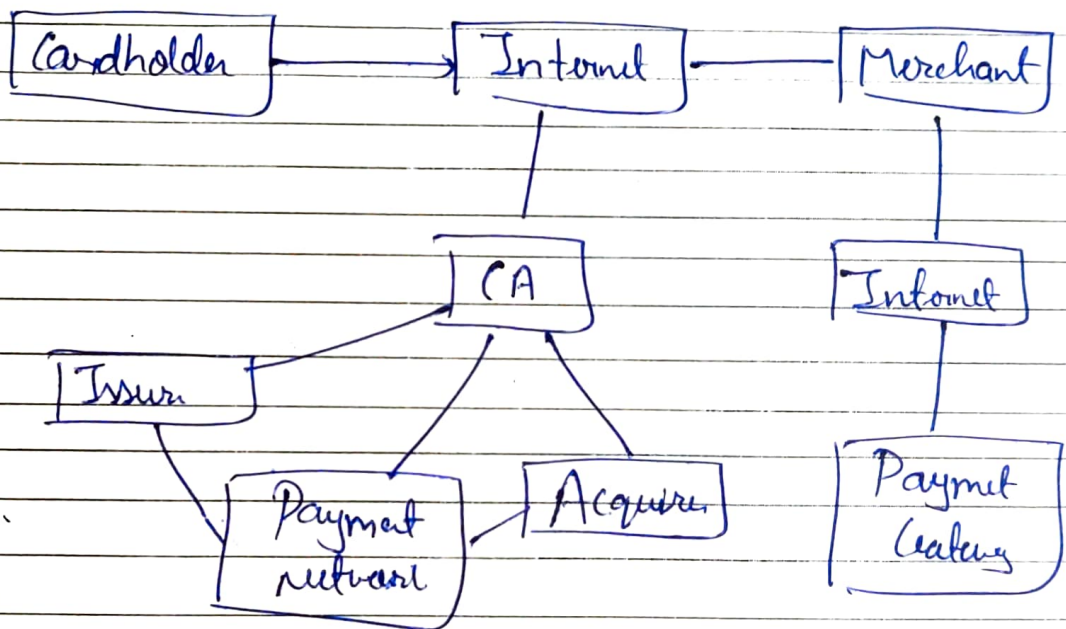
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Q2

(b).

Secure Electronic Transaction (SET)

— Open Encryption & Security Specification to protect Internet Credit Card.



— Cardholder:- Purchases interact with merchant from personal Computers over Internet.

— Merchant:- A Person that has good services to sell to Cardholder.

— Issuer:- A financial Institution, such as a bank that provide the Cardholder with payment card.





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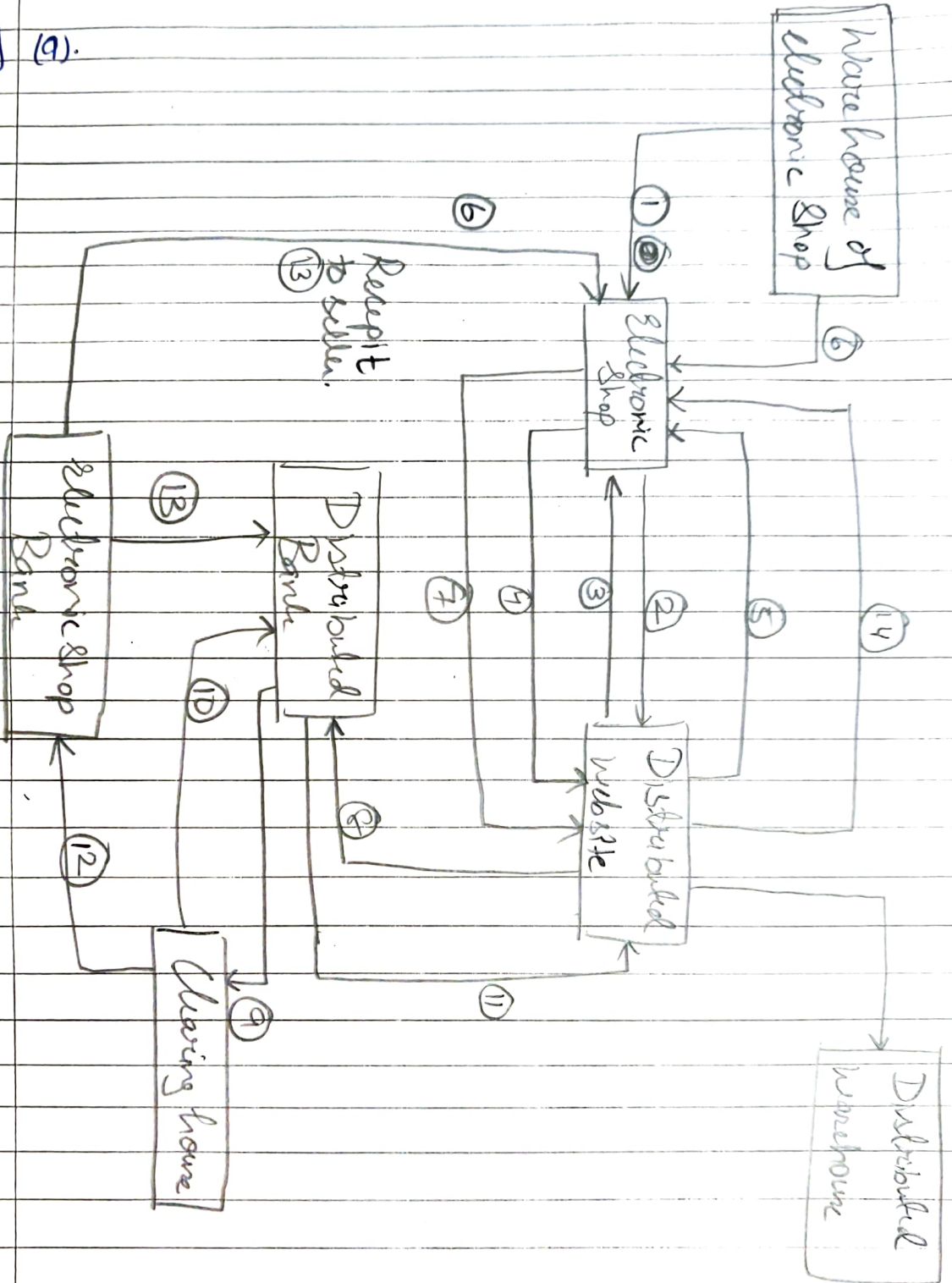
- Acquirer:- A financial Institution that establishes an account with merchant & processes payment card
- Payment Gateway:- A operator by the acquirer or a designed 3rd party that processes payment mess.
- CA:- An entity that is trusted to issue X-509 v3 public key Certificates for Cardholder, merchants & payment gateway.



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Q3 (a).



PTO



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### Point Description

- ① — Stock goes below level.
- ② — Enquire Availability
- ③ — Display various electronic Item
- ④ — Places order
- ⑤ — Ack. order & Send bill
- ⑥ — Item Received.
- ⑦ — Send Cheque
- ⑧ — Cheque sent after ~~and~~ verification of seller's public key Certificate
- ⑨ — Send Cheque for Clearance
- ⑩ — Ok's Clearance — ⑪
- ~~⑪~~ ⑫ — Debit advice to electronic shop's bank.
- ⑬ — Credit to distributor's bank A/c
- ⑭ — Remander if bill not paid within 15 days.



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Q3 (b).

A SA is a logical connection involving 2 devices that transfer data with the help of IPsec protocol.

- SA offers data protection for unidirectional traffic.
- An IPsec Tunnel features 2 unidirectional SA, which offers a secure, full duplex for data.
- Parameters are:-
  - Destination Address
  - SPI
  - Key
  - Grypto Algorithm & Format.
  - Key Lifetime.
  - Authentication Algo.