5. What type of security ~~measures~~ mechanisms are provided when a person signs a form he has filled out to apply for a credit card ?

When a person ~~applies~~ signs a form to apply for a credit card, several security mechanisms are in place to protect both the applicant & credit card issuer from fraud & unauthorized access.

i) Signature Verification
The applicant's signature on the form serves as a physical identifier, allowing the credit card issuer to verify the authenticity of the application. This signature can be compared with signatures on other official documents, such as identification cards or previous applications, to ensure legitimacy.

ii) Identity Verification
The info provided on the application form, including name, address, is cross-checked with external databases & records to verify the applicant

iii) Credit Check
As part of the application process, credit card issuers typically conduct a credit check to assess credit. This involves reviewing the applicant's credit history, including their payment behaviour, outstanding debt & credit utilization to determine the level of risk associated with approving the credit card applic

iv) Fraud Detection
Credit card companies employ sophisticated fraud detection systems to identify & prevent fraud application. These companies analyse various data points, such as applicant's behaviour, transaction patterns & historical data, to detect anomalies & signs of potential fraud. ML algos & AI maybe used to continuously improve them.

v) Encryption
Personal & financial info provided on the credit card application form is typically encrypted to protect it from interception & unauthorized access during. Encryption techniques such as SSL or TSL are used to encrypt data exchanged between applicant's browser and credit card issuer's servers, ensuring confidentiality and integrity.

vi) Privacy Policies
Credit card companies have strict security policies in place to govern the collection, use & disclosure of applicant's personal & financial information. These policies outline how the info. provided on the application form will be handled, who has access to it & under what circumstances it may be shared with third parties.
By adhering to these privacy policies, credit card issuers demonstrate their commitment to protecting the confidentiality & security of the applicant's information.

6. Encrypt the message "this is an exercise" using the following ciphers. Ignore space between the words. Decrypt the message to get the original plaintext. Use: Affine cipher with key = (15, 20)

Using affine cipher, "this is an exercise"

t → 19 c = (a*15 + 20) % 26
t → 19 → (19*15 + 20) % 26 = 19
h → 7 → (7*15 + 20) % 26 = 19
i → 8 → (8*15 + 20) % 26 = 10
s → 18 → (18*15 + 20) % 26 = 11
i → 8 → (8*15 + 20) % 26 = 10