List of Tables

No.	Tables	Page No.
2.1	Comparison between Different CAPTCHA based Authentication Schemes	27
2.2	Comparison between Different OTP based Authentication Schemes	33
2.3	Comparison between Different Text Encryption Schemes	38
2.4	Comparison between Different Image Encryption Schemes	43
2.5	Comparison between Different steganography Schemes	48
4.1	Security Analysis for CCUPL Scheme over Cryptographic Attacks	78
4.2	Comparison with Existing CAPTCHA Scheme with CCUPL Scheme	81
4.3	Security Analysis of SVROTP Scheme	94
4.4	Results of Security Analysis of NIOTP Scheme	106
4.5	Security Analysis for SVROTP and NIOTP Schemes over Cryptographic Attacks	107
5.1	Content of Plain Text, Cipher Text and Decrypted Text File	117
5.2	Execution Results of PAG Algorithm for Different File Types	117
5.3	Comparison between Implemented PAG Algorithm with AES-256 Algorithm in respect of Chi-Square Values and Degree of Freedom Value	119
5.4	Comparison between Implemented PAG Algorithm with Twofish Algorithm in respect of Chi-Square Values and Degree of Freedom Values	120
5.5	Content of Plain Text, Cipher Text and Decrypted Text File	126
5.6	Execution Results of PAGO Algorithm for Different File Types	127
5.7	Comparison between Implemented PAGO Algorithm with AES-256 Algorithm in respect of Chi-Square Values and Degree of Freedom Values	129
5.8	Comparison between Implemented PAGO Algorithm with Serpent Algorithm in respect of Chi-Square Values and Degree of Freedom Values	130

5.9	Description of Cipher Block Sequencing Methods	136
5.10	Content of Plain Text, Intermediate Encrypted, Cipher Text and Decrypted Text File	137
5.11	Execution Results of APCS Algorithm on Different File Types	138
5.12	Comparison between APCS Algorithm with AES-256 Algorithm in respect of Chi-Square Values and Degree of Freedom Values	140
5.13	Comparison between APCS Algorithm and Blowfish Scheme in respect of Chi-Square Values and Degree of Freedom Values	141
5.14	Description of Different Cipher Block Sequencing Techniques	145
5.15	Content of Plain Text, Cipher Text, Intermediate Encrypted and Decrypted Text File	148
5.16	Execution Results of ACS Scheme on Different File Types	149
5.17	Comparison between ACS Algorithm with AES-256 Algorithm in respect of Degree of Freedom Values and Chi-Square Values	151
5.18	Comparison between ACS Algorithm with Triple DES Scheme in respect of Chi-Square Values and Degree of Freedom Values	152
6.1	Content of Plain Text, Cipher Text and Decrypted Text File for MOEO Scheme	161
6.2	Representation of Execution Results of MOEO Scheme on Different Types of Files	162
6.3	Representation of Chi-Square and Degree of Freedom Values generated by MOEO Scheme on Different Files	164
6.4	Content of Cipher Text, Plain Text and Decrypted Text File for MOAV Scheme	171
6.5	Representation of Encryptions Results of MOAV Scheme on Different Files	171
6.6	Resultant Chi-Square and Degree of Freedom Values from MOAV Scheme	173
6.7	Content of Plain Text, Decrypted Text and Cipher Text File for MOZO Scheme	180
6.8	Representation of Results of Encryptions for MOZO Scheme on Different Files	180
6.9	Resultant Degree of Freedom and Chi-Square Values from MOZO Scheme	182

7.1	Representation of PSNR, MSE and BER values generated from Outputs of EODE Scheme.	193
7.2	Representation of SSIM, NCC and Q-INDEX values generated from Outputs of EODE Scheme	195
7.3	Representation of Standard Deviation and Correlation Coefficient values generated from Outputs of EODE Scheme	196
7.4	Representation of Encryption and Decryption Time of Different Files for EODE Scheme	198
7.5	Representation of PSNR, MSE and BER Values originated from Output of CIDKP Scheme	213
7.6	Representation of SSIM, NCC and Q-INDEX Values originated from Output of CIDKP Scheme	215
7.7	Representation of Standard Deviation and Correlation Coefficient Values originated from Output of CIDKP Scheme	216
7.8	Representation of Decryption and Encryption Time of Different Files encrypted by CIDKP Scheme	218
7.9	Representation of MSE, BER, PSNR Values generated from Outputs of CISP Scheme	231
7.10	Representation of SSIM, NCC and Q-INDEX Values originated from the Output Images of CISP Scheme	232
7.11	Representation of Standard Deviation and Correlation Coefficient Values generated from CISP Scheme	234
7.12	Encryption and Decryption Time of Different Files encrypted by CISP Scheme	235
8.1	Representation of BWMAS Operation as per Bit Position	242
8.2	Different Cipher & Pixel Block Sequencing Methodologies	242
8.3	Representation of PRPNNP, PRNPNP,CRPNNP and CRNPNP Sequencing Methods	247
9.1	Security Measurement of CCUPL, SVROTP, NIOTP Schemes over Cryptography Attacks	249
9.2	Requirement of CAPTCHA and OTP Generation Time and User Authentication Validation Time by CCUPL, SVROTP and NIOTP Schemes	250
9.3	Summarized Performance Assessment Results of CCUPL, SVROTP and NIOTP Schemes.	252

9.4	Requirement of Encryption Time for Different Files by APCS, PAG, PAGO, MOEO, MOAV, MOZO and ACS Schemes	253
9.5	Chi-Square Values of Different Files encrypted by APCS, PAG, PAGO, MOEO, MOAV, MOZO and ACS Schemes	255
9.6	Degree of Freedom Values of Different Files encrypted by APCS, PAG, PAGO, MOEO, MOAV, MOZO and ACS Schemes	257
9.7	Result of Summarized Performance Assessment of APCS, PAG, PAGO, MOEO, MOAV, MOZO and ACS Schemes	259
9.8	PSNR Values of Different Files encrypted by EODE, CIDKP and CISP Schemes	260
9.9	SSIM Values of encrypted Files using EODE, CIDKP and CISP Schemes	261
9.10	Q-INDEX Values of Files encrypted by EODE, CIDKP and CISP Schemes	262
9.11	Correlation Coefficient Values of Files encrypted by EODE, CIDKP, CISP Schemes	263
9.12	BER Values of Encrypted Files using EODE, CIDKP, CISP Schemes	264
9.13	Encryption Time for Different Files using EODE, CIDKP, CISP Schemes.	265
9.14	Summarized Performance Assessment Results of EODE, CIDKP and CISP Schemes	266