

# BLACK DIAMOND SCHOOL OF ENGINEERING, JHARSUGUDA



## LESSONPLAN Session(2023-2024)

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| <b>Discipline:</b> Computer Science and Engineering             | <b>Semester:</b> 6 <sup>th</sup> , Summer/2024 | <b>Name of the Faculty:</b><br>Bijay Kumar Patel<br>Lecturer     |
| <b>Subject:</b> Cryptography & Network Security<br><br>Theory-1 | <b>No. of Days/week:</b> 04                    | <b>Start Date:</b> 16/01/2024<br><br><b>End Date:</b> 26/04/2024 |

| Week | Class Day | Theory Topics                    |
|------|-----------|----------------------------------|
| 1st  | 1st       | Introduction To CNS              |
|      | 2nd       | The need for security            |
|      | 3rd       | Security approach                |
|      | 4th       | Principles of security           |
| 2nd  | 1st       | Types of attacks                 |
|      | 2nd       | Revision                         |
|      | 3rd       | Plaintext & Cipher Text          |
|      | 4th       | Substitution techniques          |
| 3rd  | 1st       | Substitution techniques contd... |
|      | 2nd       | Transposition techniques         |
|      | 3rd       | Transposition techniques contd.. |
|      | 4th       | Encryption & Decryption          |
| 4th  | 1st       | Symmetric key cryptography       |
|      | 2nd       | Asymmetric key cryptography      |
|      | 3rd       | Revision                         |
|      | 4th       | Quiz Test                        |

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| 5th  | 1st | Symmetric key algorithm types                    |
|      | 2nd | Overview of Symmetric key cryptography           |
|      | 3rd | Data encryption standards                        |
|      | 4th | Data encryption standards contd..                |
| 6th  | 1st | Overview of Asymmetric key cryptography          |
|      | 2nd | Asymmetric key cryptography contd...             |
|      | 3rd | The RSA algorithm                                |
|      | 4th | The RSA algorithm contd..                        |
| 7th  | 1st | Symmetric &Asymmetric key cryptography           |
|      | 2nd | Symmetric &Asymmetric key cryptography contd...  |
|      | 3rd | Digital signature                                |
|      | 4th | Digital signature contd..                        |
| 8th  | 1st | Question answer discussion                       |
|      | 2nd | Digital certificates                             |
|      | 3rd | Digital certificates contd..                     |
|      | 4th | Digital certificates contd..                     |
| 9th  | 1st | Private key management                           |
|      | 2nd | Private key management contd..                   |
|      | 3rd | PKIX Model                                       |
|      | 4th | PKIX Model contd..                               |
| 10th | 1st | Public key cryptography standards                |
|      | 2nd | Public key cryptography standards contd          |
|      | 3rd | Revision   |
|      | 4th | Basic concepts of Internet security protocols    |
| 11th | 1st | Secure socket layer                              |
|      | 2nd | Secure socket layer contd..                      |
|      | 3rd | Transport layer security                         |
|      | 4th | Secure Hypertext transfer protocol(SHTTP)        |
| 12th | 1st | Secure Hypertext transfer protocol(SHTTP)contd.. |
|      | 2nd | Time stamping protocol(TSP)                      |
|      | 3rd | Secure electronic transaction(SET)               |
|      | 4th | Quiz Test  |
| 13th | 1st | Authentication basics, Password                  |
|      | 2nd | Authentication Tokens                            |
|      | 3rd | Certificate based authentication                 |

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|------|-----|---------------------------------------|
|      | 4th | Biometric authentication              |
| 14th | 1st | Question Answer Discussion            |
|      | 2nd | Brief introduction of TCP/IP          |
|      | 3rd | Firewall                              |
|      | 4th | IP Security                           |
| 15th | 1st | IP Security contd..                   |
|      | 2nd | Virtual Private Network(VPN)          |
|      | 3rd | Virtual Private Network(VPN)contd     |
|      | 4th | Discussion of previous year questions |