**SSN COLLEGE OF ENGINEERING, KALAVAKKAM – 603 110**
**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**
**COURSE ASSESSMENT PLAN**

**Class: BE. CSE**                                    **Sub.Name: Cryptography and Network Security**
**Semester: VII Semester A & B Sec**
**Faculty :  J. Bhuvana**                          **Sub.Code: CS6701**
          **& V.Balasubramanian**
**Batch: 2013-2017**                              **Year: 2016-2017 (Odd)**

## COURSE OBJECTIVES:

1.  Understand OSI security architecture and classical encryption techniques.
2.  Acquire fundamental knowledge on the concepts of finite fields and number theory.
3.  Understand various block cipher and stream cipher models.
4.  Describe the principles of public key cryptosystems, hash functions and digital signature.
5.  To understand how to deploy encryption techniques to secure data in transit across networks.

**Blooms Taxonomy**

| Remember | Understand | Apply | Analyze | Evaluate | Create |
|----------|-----------|-------|---------|----------|--------|
| K1 | K2 | K3 | K4 | K5 | K6 |

## COURSE OUTCOMES

1.  To explain basic security algorithms required by any computing system. (K1,K2)
2.  Compare various Cryptographic Techniques (K1,K2, K3, K4)
3.  To outline the vulnerabilities in any computing system and hence be able to apply appropriate security mechanisms. (K1,K2, K3)
4.  Describe the existing authentication protocols for two party communications. (K1,K2)
5.  Understand the SSL or firewall based solution against security threats. (K1,K2)

**Program Outcomes (PO)**

1.  Engineering knowledge: Our graduates will have the knowledge of mathematics, logic, probability and statistics, computer science and engineering, and the skill to apply them in the fields of computer software and hardware. **(K3)**
2.  Problem analysis: Our graduates will have the knowledge and skill to identify, formulate, and solve hardware and software problems using sound computer science principles.   **(K3, K4)**
3.  Experimentation: Our graduates will have the skill to design and conduct experiments, organize, analyze, and interpret data.     **(K3, K4, K5)**

4. Design and development: Our graduates will have the skill to design and construct hardware and software systems, components, or processes as per needs and specifications. **(K4)**
5. Team work: Our graduates will have the interpersonal and communication skills to function as team players on multidisciplinary teams.        -
6. Modern tools usage: Our graduates will be able to use the techniques, skills, and modern hardware and software tools necessary for computer engineering practice.        **(K2, K3)**
7. Social and environmental responsibility: Our graduates will demonstrate knowledge related to social, ethical, legal, economical, health and safety, sustainability and environmental dimensions.
8. Communication skills: Our graduates will be able to effectively communicate technical information in speech, presentation, and in writing.
9. Contemporariness: Our graduates will have knowledge of contemporary issues in the practice of their profession.
10. Self-learning: Our graduates will develop confidence for self learning and ability for life-long learning.
11. Competitive exam preparedness: Our graduates will participate and succeed in competitive examinations such as GATE, IES, GRE.
12. Leadership: Our graduates are trained to enhance their managerial skills, leadership quality and entrepreneurial spirit.

## Course Outcomes Mapped To Programme Outcomes

|     |     | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|     |     | K3  | K4  | K5  | K4  | -   | K3  | -   | -   | -   | -    | -    | -    |
| CO1 | K2  | 2   | 2   | 1   | 0   | 0   | 2   | 0   | 0   | 0   | 0    | 0    | 0    |
| CO2 | K4  | 3   | 3   | 2   | 0   | 0   | 3   | 0   | 0   | 0   | 0    | 0    | 0    |
| CO3 | K3  | 3   | 2   | 0   | 2   | 0   | 3   | 0   | 0   | 0   | 0    | 0    | 0    |
| CO4 | K2  | 2   | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0    |
| CO5 | K2  | 2   | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0    | 0    |

## Description of Assessment Tools

*Exams*: Three Unit Assessment Tests during the term, assignments, seminars and final University exams.

## Course Assessment Matrix

| Assessment Tools | Course Outcomes | | | | |
|------------------|-----|-----|-----|-----|-----|
|                  | CO1 | CO2 | CO3 | CO4 | CO5 |
| Assessment1      | X   | X   |     |     |     |
| Assessment2      | X   |     | X   | X   |     |
| Assessment3      |     |     |     | X   | X   |

## Justification of CO- PO mapping

| CO | | Knowledge level | Remarks |
|---|---|---|---|
| **CO1** | To explain basic security algorithms required by any computing system. | K2 | To understand the existing, requires the knowledge of algorithm |
| **CO2** | Compare various Cryptographic Techniques | K4 | Evaluating them on performance and comparing them on pros and cons |
| **CO3** | To outline the vulnerabilities in any computing system and hence be able to provide a security solution. | K3 | To comprehend the vulnerabilities |
| **CO4** | Describe the existing authentication protocols for two party communications. | K2 | Explain the authentication protocols |
| **CO5** | Understand the SSL or firewall based solution against security threats. | K2 | Explain the SSL , firewall concepts |

**Prepared By**　　　　　**Verified By**　　　　　　**Approved By**
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