



## **DIPLOMA IN CYBER SECURITY (DCS)**

### **ASSIGNMENTS**

**DCS-01 to DCS-05  
(Theory)**

**SESSION: 2015-16**

*Please read the instructions carefully before attempting assignment questions.*

### **INSTRUCTIONS FOR DOING ASSIGNMENTS**

Dear Learner,

You are required to submit one assignment per course within the stipulated time in order to become eligible to appear in the term-end examination. The assignments will be evaluated by the counselors at your Study Centre. Please submit your assignment solutions to the Coordinator of your Study Center.

#### **Purpose of Assignments:**

1. Assignments are part of the continuous evaluation process in Open and Distance Learning (ODL) system. Due weightage is given to the marks/grades you obtain in assignments. This will help you for better performance in the term-end examination. If you secure good grades/marks in assignments, your overall performance will improve.
2. Assignments are also a part of the teaching-learning process in ODL system. Your assignment, after evaluation, will be returned back to you with specific and general comments by the evaluator. This will help you to know your strength as well as your weakness. Thus, it will establish a two-way communication between learner and evaluator.

## HOW TO WRITE ASSIGNMENTS:

Please read the instructions for writing the response of an assignment before you start writing your answer.

1. Write your name, programme code, course title, enrolment no. and study center code in the top sheet of the assignment answer booklet.

The top of the first page of your response sheet for each assignment should look like this:

PROGRAMME TITLE: .....ENROLMENT No.: .....

COURSE CODE: ..... NAME: .....

COURSE TITLE: .....

ADDRESS:.....

ASSIGNMENT CODE: .....SIGNATURE: .....

STUDY CENTRE: .....DATE: .....

2. Before you attempt the assignments, please go through the course materials carefully, understand the same and write answers in your own language and style.
3. Write the answers in your own handwriting. Give sufficient margin in the left side of each page so that the evaluator will give comments on each paragraph/page.
4. Your handwriting should be neat and readable.
5. You should not print or type the answers. No printed or photocopy of assignments responses will be accepted.

## WEIGHTAGE FOR EACH ASSIGNMENT:

1. Each assignment will carry 25% weightages and term-end examination will carry 75% weightage.
2. Each assignment will be of 100 marks. But it will carry 25% weightage.
3. You have to score minimum pass mark i.e. 40% in each assignment. In case you do not submit assignment or get fail mark in assignment you have to re-submit in the next year.

## SUBMISSION DATES FOR ASSIGNMENTS

<b>Assignment Sl. No.</b>	<b>Course Code</b>	<b>Name of the Course</b>	<b>Date of Submission</b>	<b>Day (as per Calendar)</b>
<b>SEMESTER - I</b>				
1	DCS-01	Operating Systems (Windows-7, Linux)	25 <sup>th</sup> Sept. 2016	Sunday
2	DCS-02	Networking Fundamentals	9 <sup>th</sup> Oct. 2016	Sunday
3	DCS-03	Networking Advanced	23 <sup>rd</sup> Oct. 2016	Sunday
<b>SEMESTER - II</b>				
4	DCS-04	Security Management	30 <sup>th</sup> Oct. 2016	Sunday
5	DCS-05	System and Application Security	6 <sup>th</sup> Nov. 2016	Sunday

# **DCS-01: OPERATING SYSTEMS (100 MARKS)**

## **PART-A**

### **Long Type Questions**

**(40=20×2) Marks**

1. Write the steps of user creation and group management in MS-Windows.
2. Discuss the Linux File System in detail.

## **PART-B**

### **Medium Type Questions**

**(30 =10×3) Marks**

3. What is OS? Explain the types of Operating Systems.
4. Explain different components of any version of MS-Windows (XP, 7, 8, 10)
5. Discuss the features of any four commonly used Operating systems.

## **PART-C**

### **Short type questions**

**(30 = 5×6) Marks**

6. Write short notes on the following.

**(5×6)**

- a) GNOME
- b) Webmin
- c) File Management
- d) Popular Linux distributions
- e) Shell
- f) Kerberos Authentication

## **DCS-02 NETWORKING FUNDAMENTALS (100 MARKS)**

### **PART-A**

#### **Long Answer Type Questions**

**(20×2) Marks**

1. Discuss the features and scope of different categories of Networks: LAN, MAN and WAN.
2. Explain the three important Goals of Information Security.

### **PART-B**

#### **Medium Answer Type Questions**

**(10×3) Marks**

3. Discuss the features, merits and demerits of Star, Bus and Ring topologies.
4. Discuss the password cracking techniques.
5. Discuss different types of threats and vulnerabilities in the area of Information Security

### **PART-C**

#### **Short Answer Type Questions**

**(30=5×6) Marks**

6. Write short notes on the following.
  - a) PKI
  - b) Security Threats
  - c) Cyber Terrorism
  - d) Digital Signature
  - e) Cryptanalysis
  - f) Steganography

## **DCS-03 –NETWORKING ADVANCED (100 MARKS)**

### **PART-A**

#### **Long Answer Type Questions**

**(20×2) Marks**

1. What is Intrusion Detection System? How it is different from Intrusion Prevention System? Discuss different types of Intrusion Detection and Intrusion Prevention Systems.
2. What is a firewall? Discuss different types of firewalls.

### **PART-B**

#### **Medium Answer Type Questions**

**(10×3) Marks**

3. Discuss the features and applications of a firewall.
4. Differentiate between Secret Key and Public Key Encryption.
5. Discuss any two different conventional encryption techniques.

### **PART-C**

#### **Short Answer Type Questions**

**(5×6) Marks**

6. Write short notes on the following.
  - a) User Management
  - b) DMZ
  - c) Authorization
  - d) Identification
  - e) Cryptography
  - f) Caesar Cipher

## **DCS-04 – SECURITY MANAGEMENT (100 MARKS)**

### **PART-A**

#### **Long Answer Type Questions**

**(20×2) Marks**

1. What is Security Audit? How it is done? Discuss.
2. What do you mean by Cyber Law? Discuss the provisions of Information Security Act, 2000.

### **PART-B**

#### **Medium Answer Type Questions**

**(10×3) Marks**

3. Discuss how International Standards are maintained for Cyber Security.
4. What do you mean by Ethical Hacking? What is the role of an Ethical Hacker?
5. Discuss the steps of Ethical hacking methodologies.

### **PART-C**

#### **Short Answer Type Questions**

**(5×6) Marks**

6. Write short notes on the following.
  - a) Mobile Security
  - b) E-mail Security
  - c) Browser Security
  - d) ISO 27001
  - e) Disaster Recovery
  - f) Cyber Security

# **DCS-05 – SYSTEM AND APPLICATION SECURITY**

**(100 MARKS)**

## **PART-A**

### **Long Answer Type Questions**

**(20×2) Marks**

1. What do you mean by security of Operating System? What are the requirements of Secure Operating System?
2. Discuss the architecture of Network Security Model for transmission of secured information over the network.

## **PART-B**

### **Medium Answer Type Questions**

**(10×3) Marks**

3. What are the security services? Discuss how you can enforce security services.
4. Discuss the operating Security threats and vulnerabilities.
5. Explain the wireless network components. How to secure a wireless network?

## **PART-C**

### **Short Answer Type Questions**

**(5×6) Marks**

6. Write short notes on the following.
  - a) Antivirus software
  - b) PGP
  - c) SSL
  - d) SMIME
  - e) OS Integrity Checks
  - f) Database Security