

ASSIGNMENTS

CSP- 10, 11 & 12

(Theory & Practical)

SESSION: 2020-21

(POST GRADUATE DIPLOMA IN CYBER SECURITY)
(DIPLOMA IN CYBER SECURITY)

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 name with code in the top sheet of the assignment answer booklet as per the format given below.

PROGRAMME TITLE:**ENROLMENT No.:**

NAME:.....

ADDRESS:.....

COURSECODE..... **COURSE TITLE:**.....

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.

Weightage for each Assignments:

1. Each Theory Assignment will carry 15% weightage and each Practical Assignment will carry 10% weightage 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

July Session

| Sl. No. | Course Code | Name of the Course | Last Date of Submission | Day (As per Calendar) |
|---------|-------------|-------------------------------------|-------------------------------------|-----------------------|
| 1 | CSP-10 | Operating System Basics | 28th Feb 2021 | Sunday |
| 2 | CSP-11 | Data Communication & Networking | 28th Feb 2021 | Sunday |
| 3 | CSP-12 | Information Security | 28th Feb 2021 | Sunday |
| | | | | |
| 4 | CSPL-10 | Operating System Basics Lab | 28th Feb 2021 | Sunday |
| 5 | CSPL-11 | Data Communication & Networking Lab | 28th Feb 2021 | Sunday |
| 6 | CSPL-12 | Information Security Lab | 28th Feb 2021 | Sunday |

ASSIGNMENTS

Operating System Basics (CSP-10)

(Theory)

Full Mark – 100

GROUP- 'A'

Q. No. 1 Answer all the questions, each within on word or one sentences **Marks: 1 × 10= 10**

- a) What is the Operating System?
- b) Write the name of different types of operating system.
- c) What does MS-DOS stand for?
- d) What is the shell?
- e) Name the latest version of Windows OS.
- f) What is recycle bin?
- g) Who has developed the Linux Operating System?
- h) What is kernel?
- i) Write the Linux command to create a new folder.
- j) What is Central OS?

Group 'B'

Q. No 2. Short answer-type Questions (Word Limit: 100 Words) **Marks:5 X 4 = 20**

- a) Explain about System Software.
- b) Difference between file and folder.
- c) Write down the steps, how the users can be managed in Windows?
- d) What is a domain? Explain about workgroup.

Group 'C'

Q. No 3. Medium answer-type Questions (Word Limit: 200 Words) **Marks: 10 X 4 = 40**

- a) What are the various versions of Linux? Write the advantages of Linux?
- b) Explain about the various drives we have studied.
- c) Write down the roles and responsibilities of Command-line Interface.
- d) Write down the ten Linux Commands and explain it.

Group 'D'

Q. No 4. Long answer-type Questions (Word Limit: 300 Words) **Marks: 15 X 2 = 30**

- a) Differentiate between Windows & Linux with their features, advantages &disadvantages.
- b) Write down the steps for formatting a hard disk and loading Operating System.

ASSIGNMENTS

Data Communication & Networking (CSP-11)

(Theory)

Full Mark – 100

GROUP- 'A'

Q. No. 1 Answer all the questions, each within on word or one sentences Marks: 1 × 10= 10

- a) A computer can be connected in both half and full-duplex mode simultaneously.
(True/False)
- b) The signals which have infinite values in a range are called _____ signals.
- c) Which Multiplexing technique is/are used in cellular network?
- d) AM signal is least affected by noise. (True/False)
- e) What is Bit Rate?
- f) NIC stands for _____.
- g) Using a co-axial cable as transmission medium, the repeaters are need at every 5-6 km for an analog signal. (True/False)
- h) What is the min and maximum header size of a TCP/IP packet?
- i) What is the address size of the IPv4 and IPv6?
- j) SMTP stands for _____.

Group 'B'

Q. No 2. Short answer-type Questions (Word Limit: 100 Words) Marks:5 X 4 = 20

- a) Compare and contrast a circuit-switched network and a packet-switched network.
- b) Explain the effect of packet size on transmission time.
- c) What is the function of a Router? How it is differ from a bridge?
- d) Explain the working of SMTP and explain how it is used to send and receive mails.

Group 'C'

Q. No 3. Medium answer-type Questions (Word Limit: 200 Words) Marks: 10 X 4 = 40

- a) Explain the characteristics of Data Communication.
- b) Discuss the function of data link layer in brief.
- c) What are the advantages and disadvantages of Ring Topology and Bus Topology?
- d) What do you mean by *Multiplexing*? What are the three major Multiplexing techniques?

Group 'D'

Q. No 4. Long answer-type Questions (Word Limit: 300 Words) Marks: 15 X 2 = 30

- a) What are the different types of transmission mediums used in data communication system? Compare their merits and demerits.
- b) Write a detailed note on TCP/IP reference model. Also compare TCP/IP and OSI reference model?

ASSIGNMENTS

Information Security (CSP-12)

(Theory)

Full Mark – 100

GROUP- 'A'

Q. No. 1 Answer all the questions, each within on word or one sentences **Marks: 1 × 10= 10**

- a) Define “Cryptography”
- b) “Trojan Horse” is a _____.
- c) “Steganography” is a technique to conceal the existence of the message. (True/False)
- d) “DDoS” Attacks Stands for _____.
- e) What is a “botnet”
- f) The process of creation of E-mail messages with a forged sender address is known as _____.
- g) Define “Phishing”
- h) _____ is the protection of data that resides on disk drives on computer systems or is transmitted between systems.
- i) _____ is the identification or verification of someone's identity on the basis of physiological or behavioural characteristics.
- j) Those individuals who engage in computer hacking activities are typically referred to as _____.

Group 'B'

Q. No 2. Short answer-type Questions (Word Limit: 100 Words) **Marks:5 X 4 = 20**

- a) What are the different types of security attack? Explain briefly
- b) What is malware? How it is different from Virus?
- c) Distinguish between Symmetric and Asymmetric Key Cryptography.
- d) Differentiate between Passive Attacks and Active Attacks.

Group 'C'

Q. No 3. Medium answer-type Questions (Word Limit: 200 Words) **Marks: 10 X 4 = 40**

- a) What do you mean by Hacking? Explain different types of Hacking.
- b) Differentiate between threat, vulnerabilities and risks with example.
- c) Define “Cyber Crime”. List the reasons for the Commission of Cyber Crimes.
- d) Explain the Network Security Model with diagram.

Group 'D'

Q. No 4. Long answer-type Questions (Word Limit: 300 Words) **Marks: 15 X 2 = 30**

- a) What is an Intrusion Detection System? Explain the different categories of Intrusion Detection System in details.
- b) Explain RSA algorithm with suitable example.

ASSIGNMENTS

(PRACTICAL)

ASSIGNMENTS

Operating System Basics Lab (CSPL-10)

(Practical)

Full Mark – 100

Answer all (each question carries 20 marks)

1. Write and show the steps to create a bootable Pen drive and how to format and recovery the original space of pen drive.
2. Show and Write down the steps on how to change the permission of a file from read to write permission in Linux.
3. Show and Write down the steps to create three different user like “Personal”, “Public” and “Private” set the password for each with user image then change the user type to Administrator in windows.
4. Write down the steps to installation process of UBUNTU 16.0.
5. Write the commands for creating the following folders using command prompt in Windows & Linux.
 - a) Root folder “INDIA” have 2 sub folder “BIHAR” & “ODISHA”.
 - b) “BIHAR” have 2 sub folder “GAYA” & “PATNA”.
 - c) Similarly there are another 2 folder under “ODISHA” called as “CTC” & “BBSR”

Data Communication & Networking Lab (CSPL-11)

(Practical)

Full Mark – 100

Answer all (each question carries 20 marks)

1. Identify and explain the function of following network devices:
 - i. HUB
 - ii. REPEATER
 - iii. BRIDGE
 - iv. SWITCH
2. Write down the steps to configure static IP address on a computer.
3. Write down the function of following network management commands:
(ping, netStat, ipconfig, nbtstat, nslookup)
4. Identify the network component and create a network topology using CISCO packet tracer software.
5. Write down the stepwise procedure to connect a network printer in Windows.

ASSIGNMENTS

Information Security Lab (CSPL-12)

(Practical)

Full Mark – 100

Answer all (each question carries 20 marks)

1. Discuss the different prevention mechanism to protect PCs from Hacking.
2. Discuss the different way to avoid software piracy.
3. Explain the different types of vulnerabilities for hacking a websites.
4. Write the procedure of Caesar Cipher Encryption Technique. Encrypt and decrypt the below plain text using Caesar Cipher encryption, using a right shift of 5.

Plain Text: **INTRODUCTION TO CYBER SECURITY**

5. Discuss the step wise procedure of RSA algorithm both at sender & receiver end.