# LUCKY INSTITUTE OF PROFESSIONAL STUDIES

## BCA III YEAR V SEM

## ASSESSMENT 2025

## Important Instructions:

**1. All students are informed that as per university norms they are provided with assessments of all theory subjects.**

**2. Students must submit the assessments of all subjects in a single file using ruled papers. Their admission number, name, class with section, should be written clearly on the file, and an index is mandatory.**

**3. Last date for submission of assessment is 10th November 2025.**

**4.Submission of assessment file is mandatory before or till last date.**

**महत्वपूर्ण निर्देश:**

**1. सभी छात्रों को सूचित किया जाता है कि विश्वविद्यालय के मानदंडों के अनुसार उन्हें सभी सैद्धांतिक विषयों का मूल्यांकन प्रदान किया जाता है।**

**2. छात्रों को सभी विषयों के मूल्यांकन कार्य एक ही फाइल में जमा करने होंगे, और वह फाइल लाइनदार (रूल्ड) पन्नों पर तैयार की जानी चाहिए। फाइल पर छात्र का प्रवेश संख्या (Admission Number), नाम, कक्षा और अनुभाग (Class with Section) स्पष्ट रूप से लिखा हो। साथ ही, एक अनुक्रमणिका (Index) देना अनिवार्य है।**

**3. मूल्यांकन जमा करने की अंतिम तिथि 10 नवंबर 2025।**

**4. मूल्यांकन फाइल को अंतिम तिथि से पहले या उस तक जमा करना अनिवार्य है।**

# LUCKY INSTITUTE OF PROFESSIONAL STUDIES

## CSA7101T INTRODUCTION TO ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

## Assessment

1. Explain the definition, characteristics, and objectives of AI. Include appropriate examples, its applications across various domains (healthcare, finance, education, etc.), and major challenges faced in its development and deployment.
2. Explain how intelligent behavior is demonstrated by machines. Discuss the Turing Test in detail—its working, significance, and limitations as a measure of machine intelligence.
3. Define an agent in AI. Describe the concept of an environment where the agent operates. Discuss the interaction between agents and environments using the dimensions:
    - Fully vs Partially observable
    - Deterministic vs Stochastic
    - Static vs Dynamic
    - Discrete vs Continuous
    - Single-agent vs Multi-agent
4. Differentiate between rational and non-rational reasoning. Explain with real-world examples how these reasoning approaches are used in AI. Discuss their implications on intelligent agent design.
5. Discuss various types of agents in AI. Compare and contrast autonomous, semi-autonomous, reflexive, goal-based, and utility-based agents. Highlight the importance of perception and interaction with the environment in improving agent performance.
6. What are problem spaces in AI? Explain how problems are represented and solved through search strategies. Describe the components of problem spaces: initial state, goal state, operators, and path cost.
7. Explain uninformed search strategies in detail. Discuss the working of Breadth-First Search, Depth-First Search, and Depth-First with Iterative Deepening. Include algorithm steps, advantages, disadvantages, and use cases.
8. Describe the architecture and working of a Perceptron. Extend the discussion to Neural Network Learning, explaining Feed Forward and Backpropagation algorithms in detail with diagrams and use cases.
9. Explain the development process of a Machine Learning application Describe each phase: data collection, preprocessing, model selection, training, evaluation, and deployment. Use a real-world example to support your explanation.
10. Discuss the major categories of Machine Learning algorithms. Classify them as supervised, unsupervised, and reinforcement learning algorithms. Provide examples and briefly describe their key characteristics and applications.
11. What is supervised learning? Explain in detail the two primary approaches: Regression and Classification. Include their algorithms, use cases, and performance measures.

12. Describe how Decision Trees are used in Machine Learning. Explain how they are constructed and applied for classification tasks.
13. Discuss Support Vector Machines (SVM). Explain their working principle, use in classification problems, and mathematical foundation. Discuss how SVM differs from Decision Trees and other classifiers.
14. What is a Confusion Matrix? Describe how it is used to measure classifier performance.
15. What are Unsupervised Learning and Reinforcement Learning? Explain Clustering with a focus on K-Means algorithm and its applications. Then, describe the principles of Reinforcement Learning, its components (agent, environment, reward), and how it differs from other learning paradigms.

# LUCKY INSTITUTE OF PROFESSIONAL STUDIES

## CSA 7103T – COMPUTER SYSTEM ARCHITECTURE

## Assessment

Q1. Explain Microprocessor Architecture and its operations.

Q2. Explain Different types of buses in computer system.

Q3. Explain different types of registers in microprocessor.

Q4. Explain different types of addressing modes.

Q5. Write instructions of following equation in different types of addressing formats.

**X = ( A + B ) / (C – D )**

Q6. Draw neat and clean architecture diagram of 8085 microprocessor and explain pin diagram of 8085 microprocessor.

Q7. Explain Mamery mapped IO and I/O mapped IO.

Q8. Explain different types of instruction group in 8085 microprocessor.

Q9. Explain Following instruction with proper syntax.

**ADC, STA, LDA, XCHG, LHLD, SBB, LXI, ADI, DAA, LDAX, MVI, INR and INX**.

Q10. Explain architecture on 8086 microprocessor.

# LUCKY INSTITUTE OF PROFESSIONAL STUDIES

## CSA 7106T INTRODUCTION TO LINUX OPERATING SYSTEM

## Assessment

1. Explain the Linux directory structure with an example tree diagram.
2. Explain the modes of operation in **vi editor** and discuss at least 10 commands used in vi.
3. Discuss Linux file handling utilities with examples (cp, mv, rm, cat, head, tail, wc, etc.).
4. What are file descriptors? Explain the different types with examples.
5. Write short notes on **system calls** in file management (create, open, close, read, write).
6. Define a process. Explain process identifiers, process structure, and the process table.
7. What are zombie and orphan processes? Explain with examples.
8. Write short notes on:
   (a) Waiting for a process (wait, waitpid)
   (b) Signal sets and signal handling functions
9. Explain Inter-Process Communication (IPC). Why is it needed?
10. Differentiate between pipes, message queues, and shared memory in IPC.
11. Define a socket. Explain the role of sockets in network communication.
12. Differentiate between connection-oriented and connectionless socket communication.

# LUCKY INSTITUTE OF PROFESSIONAL STUDIES

## CSA7107T MOBILE APPLICATION DEVELOPMENT

## Assessment

1. What is the main purpose of **Android Studio &** Write the steps to install it?
2. Explain what an **emulator** is and why it is used in mobile development.
3. Describe the key stages of the **Android Application Life Cycle**.
4. Explain the difference between a **View** and a **Layout** with a simple example.
5. What is the function of an **Adapter**? Name one type of adapter used with a ListView.
6. How do you implement an **Event Handler** for a user action, such as a button click?
7. What is the difference between a **Toast** and an **Alert Dialog**? Create an android app to show alert dialog box on button click.
8. How can you store and retrieve simple user data, such as a username, using **Shared Preferences**?
9. Explain the purpose of **File Handling** in Android.
10. What is **SQLite**, and why is it a popular choice for local data storage in Android applications?
11. Describe the use of **Android Networking APIs**.
13. What does it mean to access data from a **RESTful data source**?
14. Write the steps to **submitting an application to the Google Play Store**.