Premier University, Department of CSE
Fall 2024, 5th Semester, Assignment
Course Title: Information System Design, **Course Code:** CSE 3211
Course Outcome: CO2, CO3, **Total Marks:** 10

Problem Scenario:

The **Mental Health Care-Patient Management System (MHC-PMS)** is a medical information system designed to manage patient records and treatment details for individuals with mental health conditions. Since most patients do not require hospitalization, they attend regular checkups at hospitals, local clinics, or community centers. The system operates on a centralized database but can also function offline, allowing access in areas with limited network connectivity. It helps health service managers assess clinic performance while providing medical staff with real-time patient data for effective treatment. Key features include individual care management, where doctors can create and update patient records, patient monitoring, which tracks treatments, missed appointments, and legally confined cases, and administrative reporting, which generates monthly summaries on patient statistics and treatment costs. The system is used by both medical staff (doctors, nurses, health visitors) and administrative personnel (receptionists, records staff, and report generators). Since it handles sensitive information, MHC-PMS must strictly comply with data protection laws to maintain patient confidentiality and adhere to mental health regulations regarding legally detained individuals. As a safety-critical system, it must ensure secure access**,** high reliability, and strict legal compliance in all operations.

Objectives:

1. Create a Software Requirement Specification (SRS) that includes the following:
    1. A detailed description of both functional and nonfunctional requirements. At least four (4) functional requirements and four (4) nonfunctional requirements should be provided.
    2. A detailed requirement specification written in structured natural language.
2. Develop a Level-1 Data Flow Diagram (DFD) structuring the requirements in a logical and consistent manner.
3. Develop a use case and state machine diagram to summarize the functional requirements of the system.

Design Considerations:

1. **Clear Requirements & Compliance:** Define structured functional and non-functional requirements while ensuring adherence to healthcare laws.
2. **Logical System Structure:** Develop a well-structured Level-1 DFD, Use Case, and State Machine Diagram to accurately model system behavior.