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Faculty of Information Technology

Department [ALL]

APRIL **2025-2026 (1)**

Course Code and Name: **[INSY 7312] [JAVA PROGRAMMING]**

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MID-SEMESTER PROJECT INSTRUCTIONS/30 Marks

You are required to develop a real-world problem-solving strategy that addresses an existing issue by implementing a Java application. The solution must utilize appropriate software design patterns (such as MVC and DAO), and JDBC API.

1. Create a new database using any DBMS (Database Management System) such as mysql, postgresql, oracle, etc. Note: If the Hospital Management System is the main objective of your project, the database name should be "**hospital_managment_system_db**" **[1pt]**

2. You're required to create minimum 4 relations (tables) required by your project in the newly created database. **[1pt]**

3. Your 4 primary subject tables need at least five attributes (columns). **[1pt]**

4. Your system should include at least five (5) business validation rules and five (5) technical validation rules. For clarity, at least one table (relation) must contain a minimum of two technical validations. **[5pts]**

5. By using the MVC and DAO design patterns along with the JDBC API, implement CRUD operations in your system. For the Read operation, the data should be displayed in a JTable. **[10pts]**

6. Your Swing GUI should contain a minimum of four pages and be able to communicate effectively. **[5pts]**

7. Use JOptionPane to display appropriate messages to the end user. The system should show an information message when data is inserted successfully and an error message if the operation fails. Additionally, the system should display validation messages when input data does not meet the required criteria. **[2pts]**

8. Viva **[5pts]**

N.B:

● **Your Swing GUI forms should strike a balance between usability and visual appeal, ensuring that both functionality and beauty are given equal consideration.**

● **Everyone should have his/her own project.**

END