	SUBJECT: Data Structure & Algorithms	**CODE:** BCI1093 / DCI1033	**MARK**: /105
	TOPIC: Structure, Linked List, Queue, Searching & Sorting		
	ASSESSMENT: Project		

PLEASE READ AND FOLLOW THE INSTRUCTIONS CAREFULLY:

1. The Project must be done in a **GROUP**, with **FOUR** or **FIVE** students per group.
2. Each group need to select a **TITLE** from the given list in **TABLE 1**. The project title is based on a first come first serve basis.
3. The source code of your Project **MUST** cover all the elements mentioned in the **RUBRIC** in **TABLE 2**.
4. This Project contributes **35%** to your overall marks.
5. You may conduct your group discussion through an online medium such as Google Meet, Zoom, Cisco Webex or any other suitable platforms.
6. You are required to record a **VIDEO** presentation and provide the video **LINK** in your report.
7. **Softcopy (Project Report in PDF/WORD & Source Code in .c) must be submitted through KALAM.**
8. Please refer to **KALAM** for the Project Submission deadlines.

TABLE 1: PROJECT TITLES

TITLES
1. Smart Electricity System
2. Bicycle Tracking System
3. Digital Service Booklet for Vehicles
4. Warehouse Management System
5. Text Searching Tool
6. E-Wallet
7. To-Do-List Application
8. Petrol Pump Management System
9. E-Ledger Application
10. Courier Parcel Tracking System
11. Traffic Control Management System
12. Bowling Scoring System
13. Traffic Summons System
14. Personal Calendar Application

15. Digital Music Library Application
16. Payroll Management System
17. School Student Report Card System
18. Supermarket Billing System
19. Telephone Directory System/Phonebook Application
20. Car Rental System
21. Highway ticket and Touch & Go Reload System
22. Clothing Store Management System
23. Games Score Sheet (Football, Volleyball, Badminton)
24. Car Wash Management System
25. Online Quiz / Assessment
26. Personal Diary Management System
27. Fitness Tracking System
28. Final Year Project Logbook
29. Robotics control system.
30. Resume Builder

REPORT PREPARATION:

1. Maximum **10 pages** of the description of the case study (Minimum 3 related case studies).
2. Provide all possible sample inputs for your program.
3. Provide screenshots of the program output.
4. Coding.
5. Provide online citations/links/sources.
6. Please use the **TEMPLATE** provided in KALAM.

3 related case studies means, say if your topic is about sports management system, then you need to google and find other similar sports management systems as your case studies for comparison purpose.it needs to be 3 different type of sports management system.

VIDEO PREPARATION:

1. All group members need to present their contributions.
2. Video maximum duration is 30 minutes.
3. Include the link to your video in the report.

TABLE 2: PROJECT RUBRIC / EVALUATION

CO	ELEMENT	DESCRIPTION	MARKS
CO2 (90m)	Overall Program (6m)	Appropriate usage of variables declarations	2
		Appropriate usage of comments and indentation	2
		Error-free program	2
	Structure (30m)	Main Structure declaration (minimum 2)	8
		Nested Structure declaration (minimum 2)	8
		Implement passing structure to a function (minimum 2)	4
		Implement return a structure to a calling function (minimum 2)	4
		Able to create, assign and access structures variables/elements (minimum 15)	6
	Linked List (18m)	Able to insert data into the list	6
		Able to delete data from the list	6
		Able to modify / update data in the list	6
	Queue (12m)	Able to implement Enqueue operation using Linked List / Array	6
		Able to implement Dequeue operation using Linked List / Array	6
	Searching (12m)	Implement searching using any of the available search methods (Linear Sequential Search, Ordered Sequential Search, Binary Search)	6
		User able to search and retrieve the required information	6
	Sorting (12m)	Implement sorting using any of the available sorting methods (Selection, Insertion, Bubble, Quick, Merge)	6
		The user is given the option to select the category/item to be sorted	3
		Users can view the sorted list based on the selected category/item	3
CO3 (15m)	Additional Information / Case Study (10m)	Able to find additional information/details for the selected title/case study (Minimum 3 related case studies)	6
		Provide online citations/links/sources	4
	Main Menu (5m)	Appropriate design of Menu category/item	3
		Appropriate arrangement of the Menu options/items	2

[END OF QUESTION]