**ASSESSMENT OUTCOMES**

1. Produce the solutions for a given problems using appropriate problem solving approach
2. Demonstrate logical thinking skills in problem solving.
3. Demonstrate team working skills through group assignment

**PLEASE READ AND FOLLOW THE INSTRUCTIONS CAREFULLY.**

1. The mini Project must be done in a group, with THREE (minimum) or FOUR (maximum) students per group.
2. This mini Project contributes 30% to your overall marks.
3. Each group will be assigned to one topic/title.
4. The mini project should consist of all the elements that have been covered in this course. The compulsory elements can be seen in **Table 1**.
5. In order to obtain full marks, please full fill all the requirements mentioned in the rubric in **Table 2**.
6. The deadline is **8 January 2021**. All groups need to submit their report and prepare a 10 minutes presentation video before **Week 13**.
7. Softcopy (Project Report & Presentation Slide) must be submitted through **KALAM**.
8. You may conduct your group discussion through an online medium such as Google Meet, Zoom, Cisco Webex or any other suitable platforms. The discussion must be recorded and uploaded in Youtube. Minimum video to be uploaded is **ONE** video per week. Starting in **WEEK 6**.

**Table 1:Compulsory items to be included in the mini-project:**

|  |  |
| --- | --- |
| **No** | **Items** |
| 1 | Problem Analysis Chart (PAC) |
| 2 | Interactivity Chart (IC) |
| 3 | Input Processing Output Chart (IPO) |
| 4 | Algorithm – Without module |
| 5 | Flowchart – Without module |
| 6 | Desk Checking – For Algorithm without module |
| 7 | Coupling Diagram |
| 8 | Data Dictionary |
| 9 | Algorithm – With module (parameter passing) |
| 10 | Flowchart – With module (parameter passing) |
| 11 | Programming (sequence of input/output) |
| 12 | Interface Prototype |

**REPORT REQUIREMENTS:**

1. Front page must contain project name, group members (name, matric id, section,picture)
2. Table of contents (based on item in Table 1)
3. Based on the given title, write a case study (minimum 2 pages) that elaborates a problem in the real world situation that can be solved by using a computer program. You can explain the case study by mentioning the user of the systems, the decision, looping and calculation involve. Make sure you can apply at least:
4. 3 decision symbol and 1 nested decision
5. 1 looping symbol to your solution.

You are not allowed to use any case study already discussed in the class, provided in the lab exercise module and in the lecture notes. Provide example of expected output in your case study.

1. Design the solution for the problem using the combination of Decision Logic Structure, Loop Logic Structure and Modules with Parameters. Your design must include all the items in Table 1.
2. Group meetings reports. Record the date and time, content of the discussion for each meeting and link to meeting recording in youtube.

**Table 2: Rubric Evaluation for Mini Project**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **CO1 (5%)** |  |  |  |  |  |  |  |
| **CRITERIA** | **LEVEL OF ACHIEVEMENTS** | | | | | | **WEIGHTAGE** |
| **0** | **1** | **2** | **3** | **4** | **5** |  |
| **Case Study (Overall)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 3 |
| **Relevancy of Case Study (Suitable)** |  | Less for problem solving assessments |  | Moderate for problem solving assessments |  | Suitable for problem solving assessments | 2 |
| **Early Analysis of Case Study (Heuristic or Algorithmic with explanation)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 4 |
| **Problem Analysis Chart (PAC)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 2 |
| **Interactivity Chart (IC)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 2 |
| **Input Processing Output Chart (IPO)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 2 |
|  |  |  |  |  |  |  | 15 |
|  |  |  |  |  |  |  |  |
| **CO2 (20%)** |  |  |  |  |  |  |  |
| **CRITERIA** | **LEVEL OF ACHIEVEMENTS** | | | | | | **WEIGHTAGE** |
| **0** | **1** | **2** | **3** | **4** | **5** |  |
| **Algorithm – Without module** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 7 |
| **Flowchart – without module** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 7 |
| **Desk Checking** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 8 |
| **Coupling Diagram** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 7 |
| **Data Dictionary** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 5 |
| **Algorithm – With module (parameter passing)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 8 |
| **Flowchart – With module (parameter passing)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 8 |
| **Programming (Input Output)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 5 |
| **User Interface Prototype** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 5 |
|  |  |  |  |  |  |  | 60 |
|  |  |  |  |  |  |  |  |
| **CO3 (5%)** |  | | | | | |  |
|  |
| **CRITERIA** | **LEVEL OF ACHIEVEMENTS** | | | | | | **WEIGHTAGE** |  |
| **0** | **1** | **2** | **3** | **4** | **5** |  |
| **Able to contribute in completing task** |  | Rarely contributes in completing any task |  | Contributes in completing some tasks |  | Always contributes positively in completing all tasks | 2 |  |
| **Able to communicate in team** |  | "Hardly able to communicate with team members and show lack of respect towards all members. |  | Able to communicate with team members and show respect towards all members. |  | Always communicates effectively and shows high respect towards all members. | 2 |  |
| **Able to complete task and activities** |  | Unable to complete most of the tasks given and unable to manage activities |  | Complete some tasks given and manage some activities |  | Complete all tasks given and manage all activities systematically | 3 |  |
| **Works Distributions for All Members** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 2 |  |
| **Reporting on Meet Up** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 3 |  |
| **Group Works Presented (Not One Man Show)** |  | 10% items presented / correct |  | 50% items presented / correct |  | All items presented and correct | 3 |  |
|  |  |  |  |  |  |  | 15 |  |

Table 3: List of Mini Project Titles

|  |
| --- |
| **Mini Project Titles** |
| 1. Sports Court Booking System 2. Smart Electricity System 3. Bicycle Tracking System 4. Digital Service Booklet for Vehicles 5. Warehouse Management System 6. Appointment Booking System 7. Car Rental System 8. School Student Reporting System 9. Library Management System 10. E-Wallet 11. To-Do-List Application 12. Patient Information System 13. Petrol Pump Management System 14. E-Ledger Application 15. Courier Parcel Tracking System 16. Telephone Directory System 17. Traffic Control Management System 18. ATM Banking System 19. Bowling Scoring System 20. Online Learning System 21. Traffic Summons System 22. Personal Calendar Application 23. Insurance Application 24. Digital Music Library Application 25. COVID19 management system 26. Nursery Management System 27. Flood Management System 28. Kids Learning Application 29. Road management system 30. fire safety management system 31. TNB management system 32. E-hailing system |