



SETHU INSTITUTE OF TECHNOLOGY

(An Autonomous Institution| Accredited with 'A' Grade by NAAC)

PULLOOR, KARIAPATTI – 626 115



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

15UCS502–OBJECT ORIENTED AND ANALYSIS DESIGN

Year/Semester : III Year /V Semester B.E.(CSE) **Section: B**
Proposed date : 28.9.20 **Submission Date: 5.10.20**
Total Marks : 50

ASSIGNMENT- I **TOPIC: UML DIAGRAM**

Case Study

1. Consider the following scenario:

Design and create a car manufacturing process. To start with, order the spare parts and the raw materials needed for making tyres, steering wheel, brakes, clutch, the engine of the vehicle. Identify the problem statement and design the classes for each sequence.

Draw a detailed flow chart using state chart diagram. Design and create this system using Rational

Rose. Draw all the UML diagrams for designing this system. (25) **(CO1-Create)**

2. Identify the interaction between objects and represent those using UML

Interaction diagrams for the given scenario and justify? (25) **(CO1-Evaluate)**

The Company hires personnel for various positions. The candidates must appear for the interview with the unique ID mentioned call letter. The recruiter's verify the unique ID of the candidates before they attend the Technical interview. After the interview, the recruiter's announce the shortlisted candidates to appear for HR-Interview. The selected candidates are announced and the same will be displayed on the display system.

SCHEME OF VALUATION

Defining the Problem	- 5 Marks
Identifying the problem statement	- 5Marks
Collecting and Analyzing Information	- 5Marks
UML Diagrams	- 5 Marks
Solving the Problem	- 5Marks

Total	-- 25 Marks

Rubrics for Evaluating Each Category:

Performance Area	Good (5)	Average (3)	Needs Improvement (1)
Defining the Problem (5)	Student states the problem clearly and identifies underlying issues. (5)	Student adequately defines the problem. (3)	Student fails to define the problem adequately.(1)
Identifying the problem statement (5)	Student develops a clear and concise plan to identify the problem statement, with alternative strategies, and follows the plan to conclusion.(5)	Student develops an adequate plan and follows it to conclusion.(3)	Student develops a marginal plan, and does not follow it to conclusion.(1)
Collecting and Analyzing Information (5)	Student collects information from multiple sources and analyzes the information in-depth.(5)	Student collects adequate information and performs basic analyses.(3)	Student collects inadequate information to perform meaningful analyses.(1)
UML Diagrams (5)	Student provides a logical interpretation of the UML diagrams	Student provides an adequate interpretation of the UML diagrams	Student provides an inadequate interpretation of the UML diagrams
Solving the Problem (5)	Students draw the logical UML diagrams through rational rose finding and clearly solves the problem, offering alternative solutions.(5)	Students draw the adequate UML diagrams through rational rose finding and solves the problem, but fails to provide alternatives.(3)	Students draw the inadequate UML diagrams through rational rose finding and does not derive a logical solution to the problem.(1)

Prepared By

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Approved

HODCSE



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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ASSIGNMENT- II

15UCS502–OBJECT ORIENTED AND ANALYSIS DESIGN

Year/Semester : III Year /V Semester B.E.(CSE) **Section** : A,B & C
Proposed Date : 10.12.2020 **Submission Date**: 14.12.2020
Total Marks : 25

Consider the following scenario:

An international airport requires a system to keep track of flight details for customers. For each flight the system needs to store the flight number, destination, departure time, departure gate, airline and flight cost. Some flights are direct flights, i.e. they fly non-stop to the destination and some fly via another airport to their destination. We will call these flights indirect flights. In this case the flight stops at an airport en route to its destination to refuel. In the case of indirect flights information regarding the transit airport must also be stored. The flight cost is calculated to be the cost charged by the airline per customer plus a percentage of this amount (the profit rate). In the case of indirect flights an additional levy must be added to this amount per customer in order to cover refueling levies at the transit airport. Furthermore, on some flights additional passengers can board the plane at the transit airport. The system needs to keep track of whether boarding will take place at the transit airport or not. The system also needs to store details of the aircraft used for a flight. The aircraft make, model and capacity (number of passengers that it can carry), must be stored for each aircraft.

- a) Design a Class Diagram, stating any assumptions you make. (CO1 – Analyze) (8)
- b) Draw the Sequence Activity diagram by applying GoF Design Pattern. (CO2 – Apply) (8)
- c) Construct Logical Architecture by Class Diagram. (CO3 – Apply) (9)

ASSIGNMENT-II
SCHEME OF VALUATION

Defining the Problem	- 5 Marks
Identifying the problem statement	- 5 Marks
Collecting and Analyzing Information	- 5 Marks
UML Diagrams	- 5 Marks
Solving the Problem	- 5 Marks

Total -- 25 Marks

Rubrics for Evaluating Each Category:

Performance Area	Good (5)	Average (3)	Needs Improvement (1)
Defining the Problem (5)	Student states the problem clearly and identifies underlying issues.	Student adequately defines the problem.	Student fails to define the problem adequately.
Identifying the problem statement (5)	Student develops a clear and concise plan to identify the problem statement, with alternative strategies, and follows the plan to conclusion.	Student develops an adequate plan and follows it to conclusion.	Student develops a marginal plan, and does not follow it to conclusion.
Collecting and Analyzing Information (5)	Student collects information from multiple sources and analyzes the information in-depth.	Student collects adequate information and performs basic analyses.	Student collects inadequate information to perform meaningful analyses.
UML Diagrams (5)	Student provides a logical interpretation of the UML diagrams	Student provides an adequate interpretation of the UML diagrams	Student provides an inadequate interpretation of the UML diagrams
Solving the Problem (5)	Students draw the logical UML diagrams through rational rose. Finding and clearly solves the problem, offering alternative solutions.	Students draw the adequate UML diagrams through rational rose. Finding and solves the problem, but fails to provide alternatives.	Students draw the inadequate UML diagrams through rational rose. Finding and does not derive a logical solution to the problem.

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