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BACHELOR OF COMPUTER APPLICATIONS (B.C.A.)/
SPECIALIZATION IN CYBER SECURITY (CS)

EXAMINATION : MAY - 2024

SEMESTER – V

Sub : Unified Modeling Language (UML) / Object Oriented Modeling & Design

(BCA-546-20/BCA– CS- 546-20)

Date : 25/05/2024

Total Marks : 60

Time: 2.00 pm to 4.30 pm

Instructions:

1. All questions are compulsory unless and otherwise stated.
 2. Bold figures to the right of every question are the maximum marks for that question.
 3. Candidates are advised to attempt questions in order.
 4. Answers written illegibly are likely to be marked zero.
 5. Use of scientific calculators, Log tables, Mollier Charts is allowed.
 6. Draw neat and labelled diagrams wherever necessary.
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Q.1. Case Study

(20)

Consider a use of a "Rent a car". Customers rent a car online from choice of cars. A transaction of renting car is hired, rate of hiring, etc. Payments can be done in various ways. Loyal customers with repeat business may be given discounts. Some of the likely classes are cars, Types cars, Rates card, Customers, Transactions for renting the car, Payment, rental GUI object to interact etc. Draw the state chart diagram, class diagram and use case diagram for same.

Q.2. Solve (Any two)

(30)

1. Explain the building blocks of the UML
2. Draw class diagram , state chart diagram and use case diagram for hospital management system
3. Draw activity diagram and state diagram, sequence diagram for online railway reservation system.

Q.3. Answer the following in 2-3 lines (Solve any 5)

(10)

1. List out the principles of modeling.
 2. Design an use case diagram to show a cellular phone system
 3. Give significance of include and extend in use case diagram.
 4. Draw activity diagram for product purchase order.
 5. What is model?
 6. List out diagram showing static behaviour and dynamic behaviour.
 7. Draw a sequence diagram for printing a file
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