**MANAV RACHNA UNIVERSITY**

**Department of CST**

**(CSH207B-T & P – Software Engineering)**

**(Tutorial 3)**

**Learning outcome:** The students would be able to learn to create a use case diagram.

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| Course Outcome | Bloom’s Taxonomy | Program Outcome |
| CO1, CO2 | BT3 | PO1,2,3,5,11, PSO1,2 |

1. A university wishes to have a software system developed for its library management activities. Design the use cases and Use Case Diagram for the following problem statement:
2. **Issue of books:**
3. A student of any course should be able to get books issued.
4. Books from general section are issued to all but Book bank books are issued only for their respective courses.
5. A limitation is imposed on the no of books a student can be issued
6. A maximum of 4 books from book bank and 3 books from general section per student is allowed.
7. The books from the book bank are issued for the entire semester while books from general section are issued for 15 days only.
8. The software takes the current system date as the date of issue and calculates the date of corresponding date of return.
9. A bar code detector is used to save the student information as well as book information.
10. The due date for return of the book is stamped on the book.
11. **Return of books:**
12. Any person can return the issued books.
13. The student information is displayed using the bar code detector
14. The system displays the student details on whose name the books were issued as well as the date of issue and return of the book.
15. The system operator verifies the duration for the issue and if the book is being returned after the specified due date, a fine of Re. 1 is charged for each day.
16. The information is saved and the corresponding update takes place in database.
17. **Query processing**
18. The system should be able to provide information like

i) Availability of a particular book

ii) Availability of books of any particular book

iii) Number of copies available of the desired book.

1. The system should be able to reserve a book for a particular student for 24 hrs. if that book is not currently available