**SSN College of Engineering, Kalavakkam**

**Department of Computer Science and Engineering**

**III Semester - CSE**

# UCS 1312 Data Structures Lab Laboratory

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| **Academic Year: 2019-2020** | **Batch: 2018-2022** |

**Exercise 5: Queue and its Applications**

The structure Queue consists of integer array, front and rear. Implement Queue using circular array with the following methods.

* void enqueu(Queue \*Q, int x) – Insert an element into the queue
* int dequeue(Queue \*Q) – Dequeue an element from the queue
* void disp(Queue \*Q) – Display elements from the Queue
* int isEmpty(Queue \*Q) – Check whether the queue is empty
* int isFull(Queue \*Q) – Check whether the queue is full

Note:

1. Implement queue with the specified operations in queueADT.h & queueImpl.h
2. Check the queue by writing application program in queueapp.c

Application

1. Modify the queue to contain job number and the cpu burst time
2. Instantiate 2 queues Q1 and Q2
3. Insert queue with the following contents

(J1,2), (J2,4), (J3,8), (J4,5), (J5,2), (J6,7), (J7,4), (J8,3) (J9,6) & (J10,6)

1. Insert the job into the queue whichever is empty. If it is not empty, insert the job into the queue whichever is having minimum average time
2. Display the jobs waiting in both the queues along with their CPU burst time.