

Enrollment No:- \_\_\_\_\_

Exam Seat No:- \_\_\_\_\_

## C.U.SHAH UNIVERSITY

Summer-2015

Subject Code: 5CS02POS1

Subject Name: Operating System

Course Name: M.Sc. (IT)

Date: 20/5/2015

Semester: II

Marks: 70

Time: 02:30 TO 05:30

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### Instructions:

- 1) Attempt all Questions in same answer book/Supplementary.
  - 2) Use of Programmable calculator & any other electronic instrument prohibited.
  - 3) Instructions written on main answer book are strictly to be obeyed.
  - 4) Draw neat diagrams & figures (if necessary) at right places.
  - 5) Assume suitable & perfect data if needed.
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### SECTION-I

- Q1 a.** Answer the Following questions:
1. List out any four names for evolution of operating system 2
  2. What is Virtual memory? 1
  3. Define the following term: 2
    - a. Assembler b. Compiler
    - c. Loader d. Linker
  4. What is cache memory? 1
  5. What is the Kernel? 1
- Q2 a.** Explain the term operating system and represent its structure. 7
- b.** What is Deadlock? Explain Deadlock prevention techniques. 7
- OR**
- Q2 a.** Differentiate Between Process Management, I/O Management and Memory Management. 7
- b.** What is Scheduling? Explain types of scheduling 7
- Q3 a.** Explain PCB in brief 7
- b.** Explain semaphore and monitor with its structure. 7
- OR**
- Q3 a.** What is Disk Scheduling? Explain types of disk scheduling 7
- b.** Explain in brief the term Swapping with suitable example 7



## SECTION-II

- Q4 a.** Answer the following Questions:
1. Define Multitasking Operating System 1
  2. What is a Real-Time System? 2
  3. What is a Safe State and what is its use in deadlock avoidance? 2
  4. What is Turnaround time? 2
- Q5 a.** Solve the following given using LRU page replacement algorithm  
reference string : 2 3 4 2 1 3 7 5 4 3 7
- b.** Define Dining Philosopher Problem? Find the solution using a particular concurrency control. 7
- OR**
- Q5 a.** Explain message passing and reader/writer problem with an example. 7
- b.** Discuss the Segmentation with its architecture. 7
- Q6 a.** What is IPC? Explain unicast and multicast. write operation of IPC with suitable example 7
- b.** Explain paging with suitable example. Explain page replacement in brief. 7
- OR**
- Q6 a.** What is thread? Explain multi threading in brief. 7
- b.** What is memory management? Describe requirement of memory management. 7

