Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name : Operating System

Subject Code : 4TE04OPS1 **Branch: B.Tech (CE)**

Semester:4 **Date : 31/10/2018** **Time : 10:30 To 01:30** **Marks : 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(14)**

a) The number of processes completed per unit time is known as _____. 1
A) Output B) Throughput C) Efficiency D) Utilization

b) A program in execution is known as _____ 1
A) Process B) Thread C) Buffer D) Memory

c) What is the full form of LRU? 1
A) Logical Region Unit C) Latest Region Unit
B) Least Recently Used D) Last Recently Utilized

d) Give the full form of PCB. 1
A) Process Control Block B) Process Control Board.
C) Process Communication Block D) Program Common Board

e) Which of the following is not a page replacement algorithm? 1
A) LRU B) FIFO C) LIFO D) None of these

f) External fragmentation can be resolved by _____ 1
A) Compaction B) Large Memory Space
C) Large Block Size D) Less No. of Process

g) Give full form of DOS. 1
A) Disk Operating System C) Both A and B
B) Denial of Service D) None of these

h) RAM is known as _____ 1
A) Main Memory B) Auxiliary Memory

i) Define *Turn Around Time* and *Waiting Time*. 2

j) Define Operating System. 1

k) Define Page Fault. 1

l) Explain *rm* command. 1

m) Explain *mv* command. 1

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

A What is Operating System? Explain types of Operating Systems. **7**

B Define Process. Explain Process state diagram. **7**

Q-3		**Attempt all questions**	**(14)**
	A	What is page fault? Explain any 2 page replacement algorithms.	**7**
	B	Define Deadlock. Discuss deadlock prevention methods.	**7**
Q-4		**Attempt all questions**	**(14)**
	A	Write a short note on Fragmentation.	**6**
	B	What is PCB? Explain its fields.	**4**
	C	Explain *chmod* command in detail.	**4**
Q-5		**Attempt all questions**	**(14)**
	A	Discuss File Attributes and File Operations.	**7**
	B	Write a note on Fragmentation using diagram.	**7**
Q-6		**Explain following methods of capital budget**	**(14)**
	A	Explain Directory structure.	**5**
	B	What is Thread? Explain Multithreading models.	**5**
	C	Explain FCFS algorithm in brief.	**4**
Q-7		**Attempt all questions**	**(14)**
	A	Write a short note on Virtual Memory.	**7**
	B	Discuss: 1. Semaphore and 2. Critical-Region	**7**
Q-8		**Attempt all questions**	**(14)**
	A	Discuss swapping in memory management.	**5**
	B	Write a Shell Script to find average of 5 numbers	**5**
	C	Explain UNIX Commands : wc, ls	**4**