Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER – 3 • EXAMINATION – WINTER - 2017

Subject Code:3330701   **Date: 07-11-2017**
Subject Name: Operating System
Time: 10:30 am to 01:00 pm   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make Suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Use of programmable & Communication aids are strictly prohibited.**
5. **Use of only simple calculator is permitted in Mathematics.**
6. **English version is authentic.**

Q.1   Answer any seven out of ten. દશમાંથી કોઇપણ સાતના જવાબ આપો.   **14**

1. What is OS? What is the need of OS?

૧. OS શું છે ?OS ની જરૂરીયાત શું છે ?

2. Define file in file management.

૨. File managementમ file ની વ્યાખ્યાઆપો

3. Give definition of : Process, Program

૩. વ્યાખ્યાઆપો: પ્રોસેસ, પ્રોગ્રામ

4. Write full form : TLB, IPT,FIFO,LRU

૪. પૂર્ણ નામઆપો: TLB, IPT, FIFO, LRU

5. Give meaning of .EXE and .DOCX file extension

૫. .exe અને..docx ફાઇલ એક્સ્ટન્શન નો અર્થ સમજાવો

6. List out type of directory structure

૬. ડીરેક્ટરી સ્ટ્રક્ચરની ટાઈપ આપો.

7. Differentiate absolute file path and relative file path

૭. એબ્સોલ્યુટ ફાઈલ પાથ અને રીલેટીવ ફાઈલ પાથ નો ડિફરન્સ આપો

8. Explain grep command

૮. Grep કમાન્ડ ઉદાહરણ આપી સમજાવો

9. Define IPC.

૯. વ્યાખ્યા આપો :IPC

10. List out conditions for deadlock to occur

૧૦. ડેડલોક થવા માટેની શરતો નાં પ્રકાર લખો.

Q.2   (a)   Explain virtual memory.   **03**
પ્રશ્ન. ૨   (અ)   Virtual Memory સમજાવો.   **03**

                                        OR

        (a)   Explain multiprogramming OS.   **03**

        (અ)   Multiprogramming OS સમજાવો.   **03**

| | (b) | Explain race condition | 03 |
| | (બ) | race condition સમજાવો. | ૦૩ |

OR

	(b)	Explain file operations in file management	03
	(બ)	File management માં file operations સમજાવો.	૦૩
	(c)	Write a short note on operating system services	04
	(ક)	ટૂંકનોંધ લખો: operating system services	૦૪

OR

	(c)	Explain real time OS.	04
	(ક)	Real time OS સમજાવો	૦૪
	(d)	Explain process life cycle	04
	(ડ)	Process life cycle સમજાવો.	૦૪

OR

| | (d) | Explain FCFS with example. | 04 |
| | (ડ) | FCFS ઉદાહરણ સાથે સમજાવો | ૦૪ |

| Q.3 | (a) | Write short note: context switch | 03 |
| પ્રશ્ન. 3 | (અ) | ટૂકનોધ લખો : context switch | ૦૩ |

OR

| | (a) | Differentiate long term scheduler and short term scheduler | 03 |
| | (અ) | Long term scheduler Short term scheduler વચ્ચે તફાવત આપો. | ૦૩ |

| | (b) | Explain preemptive and non-preemptive scheduling with example. | 03 |
| | (બ) | Preemptive and non-preemptive scheduling ઉદાહરણ સાથે સમજાવો. | ૦૩ |

OR

	(b)	Write advantages and disadvantages of basic paging method	03
	(બ)	Basic paging method નાં ફાયદા અને ગેરફાયદા આપો.	૦૩
	(c)	Explain components of computer system	04
	(ક)	computer system. નાં components સમજાવો.	૦૪

OR

| | (c) | Differentiate multi programming and multi processing OS. | 04 |
| | (ક) | Multi programming and multi processing OS નો તફાવત આપો. | ૦૪ |

| | (d) | Write a short note on file types | 04 |
| | (ડ) | ટૂકનોધ લખો: file types. | ૦૪ |

OR

| | (d) | Explain round robin scheduling algorithm with example | 04 |
| | (ડ) | Round robin scheduling algorithm ઉદાહરણ સાથે સમજાવો | ૦૪ |

| Q.4 | (a) | Write a short note on disk space allocation method | 03 |
| પ્રશ્ન. ૪ | (અ) | ટૂકનોધ લખો: Disk space allocation method | ૦૩ |

OR

	(a)	Explain any four file operations	**03**
	(અ)	કોઇ પણ ચાર file operations સમજાવો.	**03**
	(b)	Explain following unix command. (i)wc (ii) cat (iii) chmod	**04**
	(બ)	નીચેના unix command સમજાવો (i)wc (ii) cat (iii) chmod	**04**

<div align="center">OR</div>

	(b)	write short note on:deadlock	**04**
	(બ)	ટૂંકનોંધ લખો:Deadlock	**04**
	(c)	Explain segmentation in memory management	**07**
	(ક)	Memory management માં segmentation સમજાવો.	**07**

Q.5	(a)	Write short note on memory relocation and protection	**04**
પ્રશ્ન. ૫	(અ)	Memory relocation and protection પર ટૂંકનોંધ લખો.	**04**
	(b)	Explain fragmentation	**04**
	(બ)	Fragmentaion સમજાવો.	**04**
	(c)	Write a short note on inverted page table.	**03**
	(ક)	I nverted page table પર ટૂંકનોંધ લખો.	**03**
	(d)	Write a shell script to find maximum of 3 numbers	**03**
	(ડ)	Maximum of 3 numbers શોધવા માટે ની shell script લખો.	**03**

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