Reg. No:................................   Name: ....

APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
SEVENTH SEMESTER BTECH. DEGREE(HONS.) EXAMINATION DEC 2019
Course code:08 CS 6011
Course Name: OPERATING SYSTEM DESIGN

Time:3 hours   **Max.marks: 60**

Answer all six questions.

Modules 1 to 6:Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q.no.	Module 1	Marks
1.a	How can we improve efficiency by virtualizing a hardware resource?	3
	Answer b or c	
b	Write the execution procedure when fork() system call is called for continuously 3 times.	6
c	How the little languages helps the design process of an operating system?	6

Q.no.	Module 2	Marks
2.a	How every IPC patterns includes the signalling pattern.	3
	Answer b or c	
b	Discuss in detail about the strategies for dealing with deadlock.	6
c	Compare the producer consumer model and client server model.	6

Q.no.	Module 3	Marks
3.a	What you mean by dynamic linking?	3
	Answer b or c	
b	Using page reference strings 1,2,3,2,4,2,5,2,3,4 compare the page replacement algorithms FCFS, Optimal, LRU and Clock. Consider the number of frames as 3.	6
	Why is LRU a good page replacement algorithm?	

| | c | What is the difference between placement of a block of allocated memory and replacement of a block of allocated memory? | 6 |

Q.no.		Module 4	Marks
4.a		How a virtual terminal interface works?	3
		Answer b or c	
	b	Discuss in detail about double buffering.	6
	c	What you mean by disk caching?	6

Q.no.		Module 5	Marks
5.a		What is the use of file descriptors in file management?	4
		Answer b or c	
	b	What you mean by logical file system? How can we map it with the physical file system?	8
	c	Explain how disk blocks are located on disk.	8

Q.no.		Module 6	Marks
6.a		What is the importance of caching?	4
		Answer b or c	
	b	Explain about queuing system model in detail.	8
	c	How can we use access control list and capability for protection of resources?	8