APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

08 PALAKKAD CLUSTER

(pages: 2) Name:

Reg No:

FIRST SEMESTER M.TECH. DEGREE EXAMINATION DEC 2015

08CS6011 **OPERATING SYSTEM DESIGN**

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

Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question

Q.no.	Module 1	Marks
1.a	Explain the various communication related system calls during complex passing between processes.	3
	Answer b or c	
b	A process implements a virtual computer. Consider the idea of running another operating system on a virtual computer that is, running an operating system as a program on another operating system. There are two ways we could do this. Discuss each one in terms of practicality and efficiency. (i) Load the operating system code directly into the virtual computer (with no other additional sotware) and run it. (ii) First load an emulator into the virtual computer. The emulator creates a virtual version of some computer. Then load the operating system to run on this emulator.	6
c	Explain process management system calls with and without argument. Also explain UNIX-style process creation.	6

Q.no.	Module 2	Marks
2.a	What is the basic idea of multiple servers and clients IPC pattern	3
	Answer b or c	
b	How the inter-process communication occurs while playing computer game (two or more people) on two different computers.	6

c	Explain virtual memory implementation. Throw light on hardware and software requirement for virtual memory.	6

Q.no.	Module 3	Marks
3.a	Explain the creation and loading of load module	3
	Answer b or c	
b	Discuss the memory management design issues and their solutions	6
c	Explain virtual memory implementation. Throw light on hardware and software requirement for virtual memory.	6

Q.no.	Module 4	Marks
4.a	Explain the PPP network interface emulation with a block diagram.	3
b	Explain disk device access strategies	6

Q.no.	Module 5	Marks
5.a	Describe path name look up algorithm	4
b	Explain the file system implementation.	8

Q.no.	Module 6	Marks
6.a	Describe briefly the design technique of caching	4
b	Explaim M/M/1 queuing system	8