GUJARAT TECHNOLOGICAL UNIVERSITY ME SEMESTER II EXAMINATION – SUMMER 2017

Subject Code: 2720213 Subject Name: ADVANCE OPERATING SYSTEM Time:02:30 PM to 05:00 PM

Date: 30/05/2017

Total Marks: 70

Instru	ctions: 1. At	ttempt all questions.	
	 M Fi 	ake suitable assumptions wherever necessary. gures to the right indicate full marks.	
Q.1	(a)	Explain the UNIX system architecture with diagram.	07
	(b)	List and explain the family of exec functions with their prototypes. How do they differ from each other? Also give one program example using one of the exec functions	07
Q.2	(a) (b)	What is fork and vfork? Explain with a program for each. Explain in detail about the following functions a. gethostbyname b. inet_ntoa c. htons d. inet_aton OR	06 08
	(b)	Explain the following API functions with their prototype definitionsa.Openb.fcntlc. chownd.dup2	08
Q.3	(a)	Explain in detail about TCP Communication with suitable diagrams. Explain all the system calls used for TCP Communication?	08
	(b)	What are the different domains (protocol family) and type values available for creating a socket?	06
Q.3	(a)	OR Write a Concurrent server program which uses TCP and display a status message of the Server before call to fork, after fork and after socket closing by parent and child. Write a client to trigger the server operation	08
	(b)	Why UDP is termed as unreliable protocol? What is the purpose of IP fragmentation?	06
Q.4	(a)	Explain zombie process with appropriate example. Which Linux command	06
	(b)	What is signal? Develop a C program to handle SIGINT signal.	08
Q.4	(a)	If you open a file for read/write with the append flag, can you still read from anywhere in the file using lseek? Can you use lseek to replace existing data in the	06
	(b)	file? Write a program to verify this. Explain in detail about the signals SIGCHLD, SIGABRT, SIGALRM, SIGKILL	08
Q.5	(a)	Explain Paging Technique for Memory management	07
	(b)	Enlist TCP socket options	07
Q.5	(a) (b)	OR Enlist the Generic Socket options Explain Process address space with reference to symbolic, physical and relative address space.	07 07
