ROLL NO	 	

**Subject: UNIX SYSTEMS PROGRAMS** Code: AC71/AT71/AC124/AT124

## **AMIETE - CS/IT (Current & New Scheme)**

**JUNE 2016** Time: 3 Hours Max. Marks: 100

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions, answer any FIVE Questions. Each

Q.1	Choose the correct or the best alternative in the following: $(2 \times 10)$		
	<ul> <li>a normally runs in background from a shell, and its standard input and standard output are connected to another program using a pipe.</li> <li>(A) Processes</li> <li>(B) Shared processes</li> <li>(C) Multi-processes</li> <li>(D) Co-processes</li> </ul>		
	<ul> <li>b. What is a <i>shell</i> in UNIX?</li> <li>(A) a program through which users can issue commands to UNIX</li> <li>(B) a window management system</li> <li>(C) the login screen</li> <li>(D) the thing that rides on the back of a turtle in UNIX</li> </ul>		
	<ul> <li>c. The shells process their command lines</li> <li>(A) from right to left (B) from left to right</li> <li>(C) Both (A) and (B) (D) None of these</li> </ul>		
	<ul> <li>d. Absolute pathname in Unix starts from</li> <li>(A) Current working directory name (B) /</li> <li>(C) \</li> <li>(D) ~</li> </ul>		
	<ul> <li>e. Which of these situations would cause an error message to be printed after typing the command "my_script" on the command line, assuming that my_script is a ksh script?</li> <li>(A) my_script does not have execute permission set</li> <li>(B) the current working directory is not in the PATH</li> <li>(C) Both (A) and (B)</li> <li>(D) Neither (A) nor (B)</li> </ul>		
	<ul> <li>f. The apropos command is used to:</li> <li>(A) obtain a list of commands whose description contains given keywords</li> <li>(B) change the system language to French</li> <li>(C) get help on a particular command</li> <li>(D) create a new binary file</li> </ul>		
	g. Which function is called to open or create a file?  (A) make (B) create (C) open (D) Get		

OLL NO.

## Code: AC71/AT71/AC124/AT124 Subject: UNIX SYSTEMS PROGRAMS

	h.	Portable applications that need to move to non-UNIX systems should use and .					
			B) ftello, fseeko				
			O) None of these				
	i.	When we write data to a file, the data is normally copied by the kernel into one of its buffers and queued for writing to disk at some later time. This is called					
		(A) delayed write (I	3) write				
			D) postponed write				
	j.	remove the semaphore set from the system.					
		` ' - ` - ` ` ` ` ` ` ` ` ` ` ` ` ` ` `	B) SETALL				
		(C) IPC_STAT (I	D) IPC_exit				
Answer any FIVE Questions out of EIGHT Questions.  Each question carries 16 marks.							
Q.2	a.	Describe User identification by writing a paragraph each on User ID, Group ID and Supplementary Group ID. What system calls can be used to determine the user ID and group ID of the process?  (8)					
	b.	Explain error handling in UNIX system function. Write a function to show how can errors be handled. (8)					
Q.3	a.	. Explain any five types of files used in UNIX system.		<b>(10)</b>			
	b.	Explain the following functions: (i) chown (i	i) fchown	(6)			
Q.4			,	(3)			
				(6)			
		Explain Process Termination. Write short notes for the following functions:					
		•	i) longjmp()	(7)			
Q.5	a.	a. What is goal of buffering provided by the standard I/O libraries? Explain of buffering.					
	b.	Write short notes on the following:		<b>(8)</b>			
0.1		•	i) Formatted I/O	(0)			
<b>Q.6</b>			(8)				
	b.	With the help of a diagram, describe the program.	ne typical memory arrangement of a	(8)			
Q.7	a.	a. What is a re-entrant function? Explain.		<b>(8)</b>			
	b.	Explain the following functions: (i) sigprocmask() (ii) sigpending()		(8)			
<b>Q.8</b>	a.	a. Define daemon processes. Mention coding rules for daemon processes.		(8)			
	b.	Write a program that prints the current the window size changes, SIGWINC The program has to be terminated with	H is caught and the new size is p				
Q.9	a.	Explain the concept of pipes. Write a child over a pipe.	program which sends data from pa	rent to (8)			
	b.	How is semaphore implemented? Exp	lain with an example.	(8)			