

Operating System and System Administration



Tutorial 03 Year 02 Semester 01

- 1) Describe the actions taken by a kernel to context switch between processes.
- 2) A process is a program in execution, and therefore a process is more than just the program. Explain why a process is different from a program.
- 3) Consider the following program. What will be the output in Line A?

```
int value = 60;
int main()
{
    pid_t pid;
    pid = fork();
    if (pid == 0) {
        value = value + 20;
    }
    else if (pid > 0) {
        value = value -20;
        printf("PARENT: value= %d \n", value); //Line A
        wait (NULL);
    }
}
```

- 4) Consider the following C program.

// Assume variables i and pid, have been properly defined, and/or initialized and there is no syntax error.

```
int main ( ) {
    for(i =0; i <3; i++) {
        pid=fork ();
    }
}
```

How many child processes are created when the program is executed?

- 5) Describe the difference among short-term, medium-term and long- term scheduling.
- 6) Describe the actions a kernel takes to context switch between processes.
- 7) Draw the diagram showing all possible process states and describe them.
- 8) Give two reasons for the system to select a new process to run.
- 9) What is the process control block? List at least four pieces of information that are included in the PCB.