



United International University
Course: Operating Systems (CSE 4509), Summer 2025
Class Test 1, Section G
Total Marks: 20, Time: 40 minutes

Name		ID	
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1) Consider the following program

```
1.   int c1 = fork();
2.   if(fork() && c1 == 0)
3.   {
4.       printf("Catch me\n");
5.   }
6.   else if(c1 > 0)
7.   {
8.       waitpid(c1, NULL, 0);
9.       printf("If you can\n");
10.  }else
11.  {
12.      exit(0);
13.      printf("Now you see me\n");
14.  }
```

- a) Draw the process tree for the above program [5]
- b) What will be the output of the program? [3]

2) What is the purpose of the exec system call in process creation? [4]

3) Suppose you have downloaded a crack file and the following code has been downloaded as malware and started running in the background. What problem will this malware create in your device? [4 marks]

a.c file	
1.	<code>if(fork() == 0)</code>
2.	<code>{</code>
3.	<code>while();</code>
4.	<code>}</code>
5.	<code>else</code>
6.	<code>{</code>
7.	<code>exec("./a");</code>
8.	<code>}</code>

4) Draw the process tree for the following code:

[4 marks]

```
1. if(fork() && fork())
2. {
3.     fork();
4. }
5. else {
6.     fork();
7. }
```