



**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.      if(fork() == 0)
2.      {
3.          while();
4.      }
5.      else
6.      {
7.          exec("./a");
8.      }
```

**4) Draw the process tree for the following code:**

**[4 marks]**

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