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QClass 24/25 QKD Quiz 1

Due Dec 23 at 3:59am

Points 10

Questions 10

Available Dec 1 at 1am - Dec 23 at 3:59am 22 days

Time Limit 60 Minutes

Allowed Attempts 2

Take the Quiz Again

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	20 minutes	5 out of 10

① Answers will be shown after your last attempt

Score for this attempt: 5 out of 10

Submitted Dec 15 at 8:44pm

This attempt took 20 minutes.

Last Attempt Details:

Time: 20 minutes

Current Score: 5 out of 10

Kept Score: 5 out of 10

1 More Attempt available

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(Will keep the highest of all your scores)

Question 11 / 1 pts

In python, which operation is the following: $a \wedge b$

- ☐ Bitwise AND
- ☐ Bitwise NOT
- ☐ Bitwise OR
- ☒ Bitwise XOR

Incorrect

Question 20 / 1 pts

Which python operator is used for **integer** division?

- ☒ /
- ☐ ÷
- ☐ %
- ☐ //

Incorrect

Question 30 / 1 pts

Solve: $(75+37) \bmod 6$

- ☐ 0

- ☐ 4
- ☐ 18
- ☒ 6

Incorrect

Question 4

0 / 1 pts

Performing bitwise operations, calculate: $10110 \oplus 01100$

- ☐ 01100
- ☒ 01010
- ☐ 11010
- ☐ 10110

Question 5

1 / 1 pts

In python, which operation is the following: $a \mid b$

- ☐ Bitwise NOT
- ☐ Bitwise XOR
- ☐ Bitwise AND
- ☒ Bitwise OR

Question 6

1 / 1 pts

In python, how do we encrypt a binary message?

- ☐ `message ** key`
- ☐ `message | key`
- ☐ `message & key`
- ☒ `message ^ key`

Question 7

1 / 1 pts

In RSA, for two prime numbers, **61** and **67**, what's the value of $(n, \phi(n))$

- ☒ (4087, 3960)
- ☐ (3960, 4087)

☐ (67, 61)

☐ (61, 67)

Incorrect

Question 8

0 / 1 pts

For RSA encryption, let $p = 31$ and $q = 37$ be two prime numbers with public key $P = (e, n)$ and private key $S = (d, n)$. Let $k = 3$ and $e = 7$. What will be the encrypted message for "H" (equivalently, 89)?

Note: The encrypted message will be a number. You have to enter the exact number.

493

Question 9

1 / 1 pts

Which algorithm is a threat to RSA encryption?

☒ Shor's algorithm

☐ Deutsch-Jozsa algorithm

☐ Bernstein-Vazirani algorithm

☐ Simon's algorithm

Incorrect

Question 10

0 / 1 pts

Which of the following is correct?

☐ $Z|0\rangle \rightarrow |1\rangle$

☐ $Z|1\rangle \rightarrow |0\rangle$

☐ $Z|-\rangle \rightarrow |+\rangle$

☒ $Z|+\rangle \rightarrow -|-\rangle$

Quiz Score: 5 out of 10

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