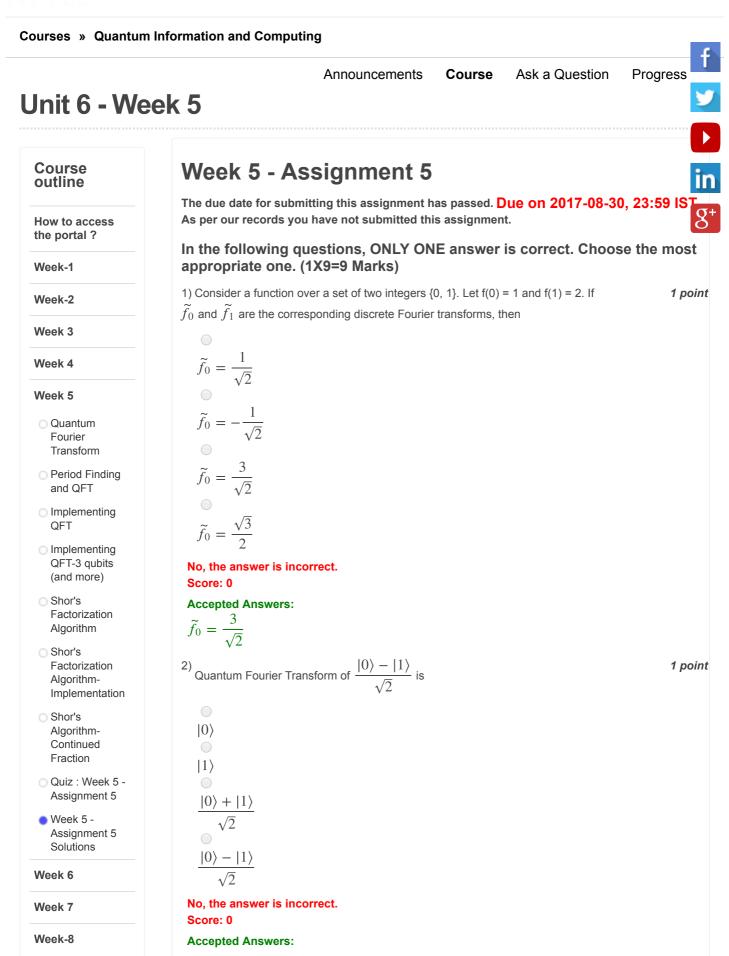
Х





https://onlinecourses-archive.nptel.ac.in/noc17_ph05/unit?unit=47&assessment=97

 $|1\rangle$ ³⁾ Quantum Fourier Transform of the Bell state $\frac{|01\rangle + |10\rangle}{\sqrt{2}}$ is 1 point $\frac{1}{2\sqrt{2}} [2|00\rangle - (1-i)|01\rangle - (1+i)|11\rangle]$ $\frac{1}{2\sqrt{2}} [2|00\rangle - (1-i)|01\rangle + |10\rangle + (1+i)|11\rangle]$ f y D in $\frac{1}{2\sqrt{2}} [2|00\rangle - (1+i)|01\rangle - (1-i)|11\rangle]$ $\frac{1}{2\sqrt{2}}[|00\rangle - |01\rangle + |10\rangle - |11\rangle]$ No, the answer is incorrect. Score: 0 **Accepted Answers:** g+ $\frac{1}{2\sqrt{2}}[2|00\rangle - (1-i)|01\rangle - (1+i)|11\rangle]$ 4) If an operator S acting a state $|x\rangle$ gives the state $|x + 1, mod N\rangle$, then S acting on its 1 point QFT, $|\tilde{x}\rangle$, gives $S|\tilde{x}\rangle = |\tilde{x} + 1, mod N\rangle$

 $S|\tilde{x}\rangle = |\tilde{x} + 1, mod N\rangle$ $S|\tilde{x}\rangle = |\tilde{x} - 1, mod N\rangle$ $S|\tilde{x}\rangle = exp(-2\pi i \tilde{x}/N)|\tilde{x}, mod N\rangle$ $S|\tilde{x}\rangle = exp(-2\pi i \tilde{x}/N)|\tilde{x} + 1, mod N\rangle$

No, the answer is incorrect. Score: 0

Accepted Answers: $S|\tilde{x}\rangle = exp(-2\pi i \tilde{x}/N)|\tilde{x}, mod N\rangle$

5) The circuit shown below gives an output given by

1 point

No, the answer is incorrect. Score: 0

Accepted Answers: $-|11\rangle$

6) The order of 4 mod 35 is

\bigcirc	2
	4
	6
	8

 $|10\rangle$

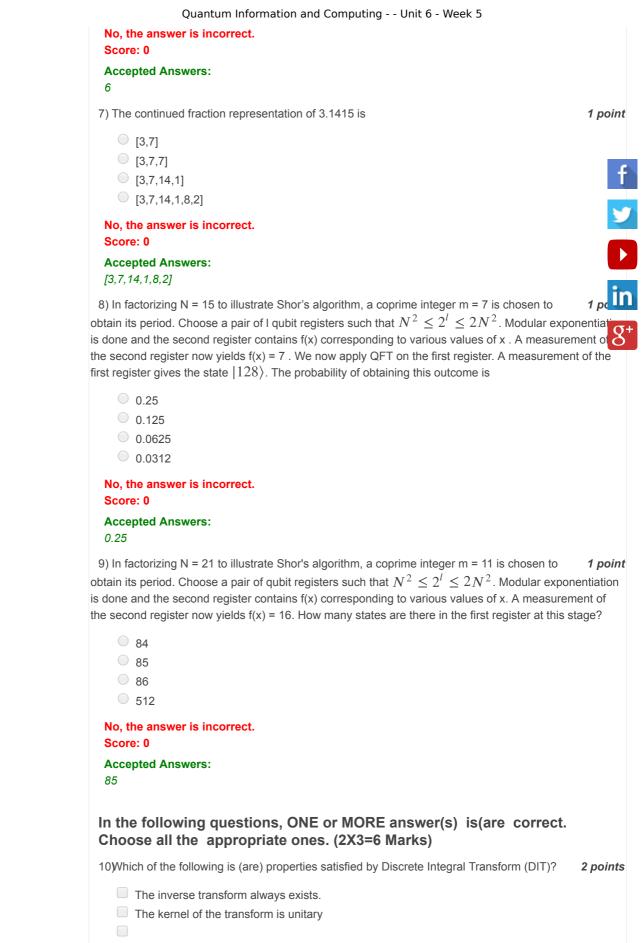
 $|01\rangle$

 $-|10\rangle$

 $-|11\rangle$

https://onlinecourses-archive.nptel.ac.in/noc17_ph05/unit?unit=47&assessment=97

1 point



If f is a function defined on a set of integers $S_n = \{0, 1, ..., N - 1\}$, then the kernel K can be represented by an N × N matrix.

If the kernel K is unitary, then Parseval's theorem : $\sum_{x=0}^{N-1} |f(x)|^2 = \sum_{y=0}^{N-1} |f(y)|^2$ holds

No, the answer is incorrect. Score: 0

Accepted Answers:

If f is a function defined on a set of integers $S_n = \{0, 1, \dots, N-1\}$, then the kernel K can be represented i an N × N matrix.

If the kernel K is unitary, then Parseval's theorem : $\sum_{x=0}^{N-1} |f(x)|^2 = \sum_{y=0}^{N-1} |f(y)|^2$ holds

11)Suppose in a period finding algorithm with n qubit registers, f(x) is a periodic function with a 2 points period P. Oracle is used to calculate f(x) and store it in the output register. A QFT is applied on the first register. Then on measuring the first register, the possible values are

0	f
N/2P	
2N/2P	9
3N/2P	
No, the answer is incorrect.	
Score: 0	•
Accepted Answers:	in
0 2N/2P	8+
12)n using Shor's algorithm to factorize N = 187, which of the following numbers may be used to determine period of m^a ?	2 points
3	
5	
7	
11	
No, the answer is incorrect.	
Score: 0	
Accepted Answers:	
3 5	
7	
Previous Page End	4
	A

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