Duration: 3hrs ` **Max Marks:80**

N.B. : (1) Question No 1 is Compulsory.
      (2) Attempt any three questions out of the remaining five.
      (3) All questions carry equal marks.
      (4) Assume suitable data, if required and state it clearly.

1		Attempt any FOUR	[20]
	a	Write a short note on The Security of Quantum Key Distribution.	
	b	Explain Limitation of the Quantum Operations Formalism	
	c	Explain Nuclear Magnetic Resonance.	
	d	Explain Quantum Fourier Transform.	
	e	Explain Stabilizer Codes.	
2	a	Explain the fundamentals of Quantum Computing	[10]
	b	Explain Quantum Noise and Quantum Operations with suitable examples.	[10]
3	a	Differentiate between Qubit and bit. Explain with an example.	[10]
	b	Explain Shor Code Algorithm and explain the methods of quantum error correction	[10]
4	a	Explain optical capacity quantum electrodynamics.	[10]
	b	Explain in brief the limitations of quantum operations formalizations.	[10]
5	a	Explain quantum search for unstructured data with examples.	[10]
	b	Explain Privacy amplification and information Reconciliation.	[10]
6	a	Explain fault tolerant quantum computations.	[10]
	b	What is Quantum Error Correction? Explain with examples.	[10]

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